THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. X. ALBANY, N. Y., APRIL, 1862. No. 4.

PUBLISHED BY LUTHER TUCKER & SON
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS A YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

THE CULTIVATOR has been published twenty-eight years. A NEW SERIES was commenced in 1853, and the nine volumes for 1853, 4, 5, 6, 7, 8, 9, 60 and 61 can be furnished, bound and post paid, at $1.00 each.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two vols. yearly of 416 pages, at $2.00 per year, is issued by the same publishers.

The Cultivator & Country Gentleman.

PRACTICAL HINTS FROM ABROAD.

The Operations of Farmers' Clubs.

As an example of the way in which the meetings of many of the most successful Farmers' Clubs in England are managed, our readers will be interested in the following list of subjects for the monthly meetings of the "Wirral Agricultural Improvement Society," for 1862. The name which follows each subject, is that of the member of the club who has agreed to prepare and read a formal paper upon it; other members are also expected to be ready to join in a discussion of the views thus propounded, after the reading of the paper. Particularly when the writer is supposed to hold views that differ in any way from those of his neighbors, there are never lacking among them some who are ready either to combat or support the opinions expressed, and the result is a valuable, well considered, animated and useful debate, in which no little experience and not a few new facts are brought to light, and which the agricultural journals profitably and gladly publish at great length. Many of the subjects in the following programme are quite as important here, as they are in England; and we wish that our Clubs might be led to take up similar questions in a similarly exhaustive and earnest way:—

February—Best means of improving poor meadows.—R. Jackson.

March.—The breeding and rearing of farm stock.—Burnham.

April.—The cheapest mode of obtaining portable manure. Wm. Turner.

May.—The amount of cottage accommodation required on an arable farm.—Russell.

June.—The relations between the employer and the employed in agriculture.—Hope Jones.

August.—To what extent can we profitably use steam power on the farm?—James Lockhart.

October.—Are restrictions in the plowing of grass fields profitable to landlord, tenant or the public?—Russell.

November.—The winter feeding of stock.—Richard Barton.

December.—A silver cup or medal will this day be awarded to the member who produces the best essay and review of the subjects above named, and the discussions thereon during the session.

The Value of Manures Tested by Analysis.

In what we have said in these columns with regard to the worthlessness of *Analysis of Soils*, as a measure or test of their productive capacity, we have never intended to utter a word that should cast a doubt upon the great and well proven importance of analysis as a means of ascertaining the pecuniary value of *artificial manures*. We have lately found, however, that some manufacturers of these articles have skillfully availed themselves of the discredit into which the investigations of the chemist have fallen as to the composition of the soil, to diffuse quietly but yet extensively, the notion that they are equally useless in a practical point of view, as a test of the value of purchased fertilizers. If analysis happens to prove them of a real value astonishingly small, as compared with the price at which they are sold, the materials entering into their composition are conveniently supposed to have been "progressed" in some way altogether inexplicable to science, to a degree of "practical" efficacy which science is equally unable to understand.

Now, in Great Britain, this matter is well understood. No respectable manufacturer of Manures objects to the test of analysis, and farmers have learned to base all their calculations as to cost and return, upon the result it gives. This is illustrated in quite frequent information given through the agricultural papers, as to the commercial value at current rates, of some fertilizer, the analysis of which has been submitted for examination, by readers desirous of reliable advice. As an instance of this kind, we may quote the answer to such an inquiry contained in the last North British Agriculturist, which happening to come to our notice as we write, suggested to us the foregoing remarks. The inquirer asks the value of the separate ingredients of the manure analysed, and of the whole in quantity; and we copy below the answer he receives:

Calculated by the 100 tons, the following will give the commercial value:—

	Per Centage.	Per Ton.	Per 100 tons.
Soluble phosphates	8	£23 0	£184
Insoluble phosphates	4	7 0	28
Sulphate of ammonia	20	15 0	300
Sulphate of magnesia	3	—	—
Sulphate of potash	1	8 0	8
Hydrated sulphate of lime	30	0 10	15
Muriate of soda	20	0 10	10
Insoluble matter and moisture	14	—	—
Value of 100 tons			£545
Value of 1 ton, £5, 10s.			

The manurial value of the manure of which the analysis is given, depends mainly on the percentage of sulphate of ammonia present.

[For the Country Gentleman and Cultivator.]

THE CONDITIONS OF GERMINATION.

By Prof. Samuel W. Johnson.

The plant begins with the seed. The embryo is a plant in miniature, or rather in most cases, it contains a rudimentary organism, which under certain influences is capable of developing into a plant.

The first process of development wherein the young plant commences to manifest its separate life, and in which it is shaped into its proper and peculiar form, is called germination.

In the mature seed when kept from excess of moisture, the embryo lies dormant. The *duration of its vitality* is very various. The seeds of the willow and coffee will not grow after having once become dry, but must be sown when fresh; the former loses its germinative power in two, the latter in six weeks after ripening.

With regard to the duration of the vitality of the seeds of agricultural plants, there is no little conflict of opinion among those who have experimented with them. The leguminous seeds appear to remain capable of germination during long periods. Girardin sprouted beans that were over a century old. Grimstone with great pains raised peas from a seed taken from a sealed vase found in the sarcophagus of an Egyptian mummy, presented to the British Museum by Sir G. Wilkinson, and estimated to be near 3000 years old. The seeds of wheat usually lose their power of growth after having been kept 3 to 7 years. Count Sternberg is said to have succeeded in germinating wheat taken from an Egyptian mummy, but only after soaking it in *oil*. He relates that this ancient wheat manifested no vitality when placed in the soil under ordinary circumstances, nor even when submitted to the action of acids or other substances which gardeners sometimes employ with a view to promote sprouting. Vilmorin doubts altogether the authenticity of the "mummy wheat." The fact appears to be, that the circumstances under which the seed is preserved, greatly influence the duration of its vitality.

In agriculture it is a general rule, that the newer the seed the better the results of its use. Experiments have proved that the older the seed the more numerous the failures to germinate and the weaker the plants it produces. Londet made trials in 1856–7, with seed wheat of the years 1856, '55, '54 and '53.

The following table exhibits the results, which illustrate the statement just made:

	Per ct. of seed sprouted.	Length of leaves 4 days after coming up.	No. of stalks & ears per hundred seeds.
Seed of 1853,	none		
do. 1854,	51	04—0.8 inch.	289
do. 1855,	73	1.2 do.	365
do. 1856,	74	1.6 do.	404

The fact that old seeds yield weak plants, is taken advantage of by the florist in producing new varieties. It is said that while the one-year old seeds of ten-weeks-stocks yield single flowers, those which have been kept four years give mostly double flowers.

The general process and conditions of germination are familiar to all. In agriculture and ordinary gardening, we bury the ripe and sound seed a little way in the soil, and in a few days it usually sprouts, provided it finds a certain degree of warmth and moisture.

Let us attend somewhat in detail to the phenomena of germination, and to the requirements of the awakening seed. We observe that the seed first absorbs moisture, in consequence of which it swells and becomes more soft; we see the germ enlarging beneath the seed-coats, shortly the integuments burst, and the rootlet or radicle appears; afterward the plumule or stem becomes manifest. In all agricultural plants the radicle buries itself in the soil and avoids the light. The plumule ascends into the atmosphere and seeks exposure to the direct sunbeams, where it shortly unfolds new leaves, and if coming from the seed of a branched plant, lateral buds make their appearance. The radicle divides and subdivides, in beginning the issue of true roots. When the plantlet ceases to derive nourishment from the mother seed, the process is finished.

As to the conditions of germination, we have to consider the following:

The soil is usually the medium of moisture, warmth, &c., and it affects germination only as it influences the supply of these agencies; it is not otherwise essential to the process. The burying of seeds when in the field or garden, serves to cover them away from birds and keep them from drying up. In the forest at spring time, we may see innumerable seeds sprouting upon the surface, or but half covered with decayed leaves.

A certain range of warmth is essential. Goeppert, who experimented with numerous seeds, observed none to germinate below 39° Fahrenheit. Sachs has ascertained for various agricultural seeds, the extreme limits of warmth at which germination is possible, The lowest temperatures range from 41° to 55°; the highest from 102° to to 116°. Below the minimum temperature the seed preserves its vitality; above the maximum it is killed. He finds likewise that the point at which the *most rapid* germination occurs, is intermediate between these two extremes, and lies between 79° and 93°. Either elevation or reduction of temperature from these degrees, retards the act of sprouting.

In the following table are given the special temperatures for six common plants:—

	Lowest Temperature of Germination.	Highest. Germination.	Temperature of most rapid Germination.
Wheat,	40 deg. Fah.	104 deg. Fah.	84 deg Fah.
Barley,	41 do.	104 do.	84 do.
Pea,	44.5 do.	102 do.	81 do.
Maize,	48 do.	115 do.	93 do.
Scarlet Bean,	49 do.	111 do.	79 do.
Squash,	54 do.	115 do.	93 do.

For all agricultural plants that are cultivated in New-England a range of temperature of from 55° to 90° is adapted for healthy and speedy germination. It will be noticed in the above table that the seeds of plants introduced into northern latitudes from tropical regions, as the squash, bean and maize, require and endure a higher temperature than those native to temperate latitudes, as are wheat and barley. The extremes given above are by no means so wide as would be found, were we to experiment with other plants. It is probable that some seeds will germinate nearly at 32 deg., or the freezing point of water, while the cocoa nut is said to yield seedlings with the greatest certainty when the heat of the soil is 120 deg.

Sachs has observed that the temperature at which germination takes place materially influences the relative development of the parts, and thus the form of the seedling. According to this industrious experimenter, very low temperatures retard the production of new rootlets, buds and leaves. The rootlets, which are rudimentary in the embryo, become, however, very long. On the other hand very high temperatures cause the rapid formation of new roots and leaves even before those existing in the germ are fully unfolded. The medium and most favorable temperatures bring the parts of the embryo first into development, at the same time the rudiments of new organs are formed, which are afterward to unfold.

A certain amount of moisture is indispensable to all growth. In germination it is needful that the seed should absorb water so that motion of the contents of the germ-cells can take place. Until the seed is more or less imbued with moisture, no signs of sprouting are manifested, and if a half-sprouted seed be allowed to dry, the process of growth is effectually checked.

The degree of moisture which different seeds will endure or require, is exceedingly various. The seeds of aquatic plants naturally germinate when immersed in water. The seeds of many land plants indeed will quicken under water, but they germinate most healthfully when moist—but not wet. Excess of water often causes the seed to rot.

Free oxygen as contained in the air, is likewise essential. Saussure demonstrated by experiment that proper germination is impossible in its absence, and cannot proceed in an atmosphere of other gases. The chemical ac-

tivity of oxygen appears to be the means of exciting the growth of the embryo.

It has been taught *that light is prejudicial* to germination, and that therefore seeds must be covered. (Johnston's Lectures on Ag. Chem. and Geology, 2d Eng. Ed. pp. 226 and 227.) When, however, we consider that nature does not bury seeds, but scatters them on the surface of the ground of forest and prairie, where they are at the most half covered and by no means removed from the light, we cannot accept such a doctrine. The warm and moist forests of tropical regions, which, though shaded are by no means dark, are covered with sprouting seeds. The gardener knows that the seeds of heath, calceolarias and some other ornamental plants germinate best when uncovered, and the seeds of common agricultural plants will sprout when placed on moist sand or sawdust, with apparently no less readiness than when buried out of sight.

The time required for germination varies exceedingly according to the kind of seed. As ordinarily observed, the fresh seeds of the willow begin to sprout within twelve hours after falling to the ground. Those of clover, wheat and other grains, germinate in three to five days. The fruits of the walnut, pine and larch, lie four to six weeks before sprouting, while those of some species of ash, beech and maple, are said not to germinate before the expiration of one and a half or two years.

The starchy and thin-skinned seeds quicken most readily. The oily seeds are in general more slow; while such as are situated within thick and horny envelopes, require the longest periods to excite growth. The time necessary for germination depends naturally upon the favorableness of other conditions. Cold and drouth delay the process, when they do not check it altogether. Seeds that are buried deeply in the soil may remain for years, preserving but not manifesting their vitality, because they are either too dry, too cold, or have not sufficient access to oxygen to set the germ in motion.

To speak with precision, we should distinguish the time from planting the dry seed to the commencement of germination, which is marked by the rootlet becoming visible, and the period that elapses until the process is complete, i. e., when the stores of the mother-seed are exhausted, and the young plant is entirely thrown upon its own resources. At 41° F., in the recent experiments of Haberlandt, the rootlets issued after four days in the case of rye, and in five to seven days in that of other grains and clover. The sugar beet, however, lay at this temperature 22 days before beginning to sprout.

At 51° the time was shortened about one-half, in case of the seeds just mentioned. Maize required eleven, the kidney bean eight, and tobacco thirty-one days at this temperature.

At 65° the grains, clover, peas and flax, began to sprout in one to two days; maize, beans and sugar beet in three days, and tobacco in six days.

The time of completion varies with the temperature much more than that of beginning. It is, for example, accoring to Sachs, at 41° to 55° for wheat and barley, 40 to 45 days; at 95° to 100° for the same, 10 to 12 days.

At a given temperature, small seeds complete germination much sooner than large ones. Thus at 55° to 60° the process is finished with beans in 30 to 40 days; with maize, in 30 to 35 days; with wheat, in 20 to 25 days; with clover, 8 to 10 days.

These differences are simply due to the fact that the smaller seeds have smaller stores of nutriment for the young plant, and are therefore more quickly exhausted.

An important deduction for practice, from the facts above set forth, is, that general rules with regard to the depth to which seeds should be sown, must not be laid down too rigidly, but circumstances must be allowed to alter cases.

While it is the almost universal result of experience in temperate regions, that agricultural seeds germinate most surely when sown at a depth not exceeding 1 to 3 inches, there are circumstances under which a widely different practice is admissible or even essential. In the light and porous soil of the gardens of New-Haven, peas may be sown six to eight inches deep without detriment, and are thereby secured from the ravages of the domestic pigeon. The Moqui Indians, dwelling upon the table lands of the higher Colorado, deposit the seeds of maize 12 to 14 inches below the surface. Thus sown, the plant thrives, while if treated according to the plan usual in the United States and Europe, it might never appear above ground. The reasons for such a procedure are the following: The country is without rain and almost without dew. In summer the sandy soil is continuously parched by the sun, at a temperature often exceeding 100° degrees in the shade. It is only at the depth of a foot or more that the seed finds the moisture needful for its growth—moisture furnished by the melting of the winter snows.*

Yale College, New-Haven, Ct., Feb. 18.

[For the Country Gentleman and Cultivator.]

Potatoes--Plant Early, Plant Deep and Dig Late.

EDITORS OF CO. GENT.—I have observed of late several articles in the Co. GENT., recommending early digging of potatoes attacked with disease.

Now my *observation* and *experience* have led me to an entirely different practice. For several years after the appearance of the potato disease in this country early digging was recommended, which plan I practiced repeatedly, sometimes spreading my potatoes on the bottom of a *dry* cellar, and sometimes burying them in pits, always with great and sometimes total loss, not to mention the disagreeable labor of overhauling them, in those seasons when the disease was prevalent.

Assuming that the disease is *atmospherical*, *epidemic* and *contagious*, I changed my practice—which for the last fifteen years has been perfectly satisfactory—leaving my potatoes in the ground as late in the fall as would be safe on account of frost—all potatoes then *sound*, keeping good both in the cellar and in pits.

Now for the "reason for the faith that is in me." For several years I have observed that those tubers that were deepest in the ground, and the hills the least conical or elevated above the surface, were invariably the freest from disease. Hence I inferred they were safer in the ground than out, being less exposed to heat, light, and atmosphere, and contagion from contact.

Your correspondent J. L. R., says that he dug his potatoes the 12th of Sept., and had only twelve bushels of sound potatoes, and thinks had he dug them a month earlier he might have had 40; and so he might, and very likely would have had them to overhaul and a portion to throw away, and the balance being so much exposed to light and air as to render them neither healthy nor palatable. Many years ago I had an acre of potatoes which in the month of August were attacked with disease, and to *save them*, I dug them and spread the apparently sound ones on my cellar bottom, which was dry, giving them what air I could. But in a very few days they commenced fermenting,—"sweating at every pore,"—and the result was, after sundry sortings and overhaulings, I had them all to throw away. I should have said however, that a few hills were left undug until late in the fall, from which I obtained a basket of sound potatoes worth more than all those dug in August, not to mention the disagreeable labor attending the removal to and from the cellar.

And now after more than twenty years of experience and experimenting on the potato rot, I have settled on this practice—plant early, plant deep, and dig as late as possible, avoiding frost, that is, freezing of tubers, and you will get the most sound potatoes with the least labor.

Adrian, Mich., Feb. 16, 1862. B. J. HARVEY.

GOOD PIGS.—Mr. Wm. P. Giles of Skaneateles, recently killed four hogs that weighed 1,200 pounds, at 8 months and 17 days, one of which weighed when dressed 351¼ pounds. They were fed on milk. I consider ground oats a superior feed for hogs. B.

A BUREAU OF AGRICULTURE.

Hon. Owen Lovejoy sends us the Report of the Congressional Committee on Agriculture, of which he is chairman, submitted in the House of Representatives, Feb. 11th, in favor of the "establishment of an Agricultural Department or Bureau."

This action was specially recommended in President Lincoln's last annual Message; and the Secretary of the Interior, in his report then presented, also urged "the establishment of a bureau of agriculture and statistics, the need whereof," he remarks, "is not only realized by the heads of departments, but is felt by every intelligent legislator. * * One of the objects contemplated by Congress in the appropriations for the promotion of agriculture was the 'collection of agricultural statistics.' * * Annual reports made under the direction of such a bureau, *setting forth the condition of our agriculture, manufactures, and commerce*, with well digested statements relative to similar facts in foreign countries, which the present rapid intercommunication enables us to obtain often in advance of their publication abroad, would prove the most valuable repertories of interesting and important information, the absence of which often occasions incalculable loss to the material interests of the country."

The Report of the Committee on Agriculture seconds these suggestions, and argues the importance of the Bureau proposed, very fairly, but not with as much force as we should have been glad to see the question discussed, nor apparently with as clear an idea of the whole scope and uses of such a department as was entertained by the Secretary himself.

Thus, in answer to the supposed objection, "Why not have a minister of commerce, of manufactures, as well as a minister of agriculture?" it is justly answered that "commercial and manufacturing interests, being locally limited and centralized, can easily combine and make themselves felt in the halls of legislation, and in the executive departments of the government," while farmers are lacking in similar combinations to press their interests; and thus "New-York and Lowell have often more immediate influence in directing and moulding national legislation than all the farming interests in the country." But the committee might also, and still more forcibly as it seems to us, have urged the importance of such a bureau, from the benefits it will render to our commerce and manufactures, quite as much as from those which our agriculture may expect from its establishment. For its true design should be to include—as a department of "*Agriculture* and *Statistics*"—the whole productive capacities of the country in every department of industry. It is this which the Report of the Secretary of the Interior, as above quoted and italicized by us, distinctly advocates; and, in such a bureau, Agriculture justly takes the first and most prominent place, because, upon *its* condition, and upon the facts revealed by its statistics, so large a share of both our commercial and manufacturing prosperity is mainly dependent. The interests of manufacturers, of merchants, and of farmers, are, we fully believe, in the long run far more likely to be harmonious and co-incident with each other, than they are to clash; and it thus results, not only that such a bureau, properly managed, is of itself partially a bureau of commerce and manufactures, but also that where it *is* specially promotive of the interests of Agriculture, it also exerts a secondary effect to the advantage of those other pursuits which can never be most prosperous except in the prosperity of the Farmer, and which depend upon him entirely for the resources of their subsistence, and, very largely, for the purchase of their goods.

A Department of "Agriculture and Statistics," we do need. It should receive, condense and circulate the Statistics now obtained in States which already collect them, and secure their collection in other States. It should be an active, living, *working* department. It should deal with the great facts of constant practice; and leave theoretical investigations mainly to those better fitted to carry them on wisely and well. It should not be turned into a hospital for rejected office-seekers in other departments; nor into a seed and flower establishment for the supply of what any seedsman or florist will be glad to sell us; nor into a publication office of collated extracts and re-hashed essays, presenting nothing that has not been printed before in other forms, and nowhere serving to carry forward one step the real agricultural knowledge of the day. If our Government proposes in earnest thus to extend its helping hand to our industrial interests, we trust the new bureau will be committed to hands not notoriously incompetent; that it will be raised above the level of petty political influences; that it will publish reports to which we may turn with a reasonable hope of eliciting here and there a new fact, or getting now and then some ray of light, however feeble, in channels before obscure. If space permitted we should be glad to treat this subject at greater length;—we have avoided it hitherto, in despair that what any true friend of Agriculture might say would receive even the most cursory attention, and now we dare scarcely entertain much hope that the new bureau, if indeed it be created, will be placed upon such a basis as to secure the confidence of the reasoning and thinking Farmers of the country.

TRIMMING BUCKTHORN HEDGES.

Messrs. Editors—I take the liberty to ask your advice in trimming a *Buckthorn hedge* that surrounds my fruit-garden. It has been set nine years; my custom has been to trim it once a year, the last of July or first of August. The first few years I trimmed it square; but by the regular weekly visits of the Country Gentleman in my family, I have learned, among many other things, a much better way, and now it is a fair specimen of the pyramid form, nearly eight feet high. Now what I want to know is, how shall I trim it and keep the present hight, and preserve its beauty? I find the leaves are nearly all on the outside, and if I cut close to the previous cutting, I rob my "pet" of all its beauty—*the leaves.*" I don't want it higher, as it is difficult to trim now. "*What is to be done?*" Willis P. Sargent. *Amesbury, Mass.*

The buckthorn, although a very hardy tree, is one of those which will not grow well in the shade, and for this reason its interior branches are nearly destitute of foliage. If very evenly and frequently sheared, a dense stratum of foliage is formed at the exterior of the hedge, preventing the growth of any leaves inside. To avoid this result, do not shear frequently, (and never while the hedge is growing or in leaf,) but cut the surface with a knife by *thinning-in*—that is by cutting out for a short distance inwards one-half or two-thirds of all the ends of the branches—going further in, and thinning out more severely according to the necessities of the case. This must be done early in spring, and never when the leaves are on.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 1 shows the section of a hedge which has been repeatedly sheared at the outside, all the interior branches being bare. Fig. 2 represents the same shortened or thinned back in the way here intended, presenting a more irregular or uneven surface, and admitting the light to the interior. Fig. 3 shows more particularly how this process is performed, the cut back being made at a fork *b*, or still shorter at *a*; thus leaving no stumps.

The Pecuniary Interests of England and France.

Aside from the moral point of view, from which any question may be judged, we all know that there is generally a pecuniary argument somewhere involved, and that, in the present fallen condition of humanity, the latter is likely to be considered quite as forcible in most cases as the former. But, beyond the obligations of morals, and the interests of money-getting, there are the impulses of various passions, sometimes blameworthy, and perhaps sometimes laudable, which often blind us entirely both as to duty and expediency. During our present national difficulties other nations have not been backward in representing us as thus blinded by passion; and without wishing to intimate that there are resentments or jealousies of any kind which could have interfered the most remotely with the clearness of *their* vision, it still seems to us that their position towards the United States throughout this sad national conflict of ours, has scarcely been such as real friendliness to us, or a wise regard for their own highest commercial and manufacturing prosperity, would have dictated to them.

On the score of friendliness, however, we have nothing to say, since, with regard to it and its obligations, every man or nation expects to be his own judge. It is the pecuniary relations which our present difficulties bear towards England and France, to which we wish to refer very briefly. These two nations have long supplied us with manufactures of necessity or luxury, in vast quantities, for which during the past year our markets have been almost wholly closed, while, at the same time that their exporters are thus shut off from business, their manufacturers and artisans—both their capital and their labor—have been lying comparatively idle for lack of cotton, as well as lack of trade.

Now we cannot but think, that if the two governments alluded to, when first approached, probably more than a year ago, by agents of the "Confederacy" then in process of incubation,—had clearly seen their own interests, and distinctly and promptly affirmed, that, as supporters of established institutions, as leaders in the arts of peace, as friends of humanity and civilization,—they could in no respect aid nor countenance a revolutionary movement in the Southern States—we cannot but think, that after such an announcement had been made, our peace here would never have been infringed, and that their sales to us of goods, and purchases from us of cotton, would have consequently continued to go on just as in other years. Instead of this, there is nothing to show that the hopes of Southern recognition were not encouraged in Europe, and their efforts in promoting revolution and war, aided there, or at least not at all impeded. And, hardly had the struggle opened, when a so-called "neutrality" was declared,—placing a few discontented leaders on the same footing as the government of an allied nation; fostering the duration of a strife, in the course of which England and France had everything to lose, with very uncertain gains to hope for after its conclusion,—a strife which had its origin in the supposed power of Cotton to compel the homage of the world, and which has been prolonged thus far, only because it has taken so long to convince other nations that a scarcity of this material is not, after all, the worst of national evils.

Some one has lately been arguing in England that it would be cheaper for the nation to support its idle factory-laborers, than to undertake a foreign war of unknown length and magnitude; and Mr. BRIGHT, in an address lately delivered before the Birmingham Chamber of Commerce, aptly remarks that "if cotton be now a shilling a pound, it could not be got through war at less than five shillings." Mr. CAIRD, too, in a speech which is spoken of as very able in our English exchanges, argues that "if we [England] break the blockade of the Southern ports, to obtain the cotton which in a very short time we shall receive in abundance from India, we shall have to fight the United States, from which we now derive our chief supply of grain, and shall thus raise the price of wheat 20s. a qr. The result, according to Mr. CAIRD, would be that, instead of having, as we now have, 2,000,000 of people on 'short time,' we should see 30,000,000 in Great Britain on 'short commons,' and 36,000,000 in France in the same condition, owing to the non-arrival of breadstuffs from Northern America."

This is not the interested view of a tradesman, but the elevated argument of one who looks beyond a temporary lack of cotton to the consequences of paying too high a price to get it. And now that, as we all believe and trust, the zenith of this up-rising has passed by, such calculations as those of Mr. Caird cannot help being of still greater weight in Europe. Surely no statesman there can have supposed that a great nation like the United States would be the quiet witness of its own dismemberment and dissolution! We desire no better authority than the commercial history of the past twelve months, to prove that the interests of our government at the beginning were identical with those of England and France, and are so still; and that the cause of order and peace and human welfare, was then, and yet remains, coincident with both.

Composting Muck with Stable Manure.

I have been experimenting somewhat this winter in composting, and ask both your advice and opinion. Have been forming a pile in my yard, composed of a layer of good quality peaty muck, fresh dug, of eight to ten inches thick, and then a layer of good strong, fresh, unleached stable manure, made from both horses and cattle, rather coarse, perhaps, and which would need in itself to become somewhat more decomposed before using, of 6 to 8 inches thick. I have added alternate layers of this until I have a mass 40 feet long, 12 feet wide, and 6 feet high.

I shall need to use it about the 20th of May, and propose about the first or middle of April to fork it all over carefully, and see that the whole mass is thoroughly incorporated together. And what do you think of this? Will it prove labor lost, and come out in May simply muck and manure, or will the pile heat and decompose and become assimilated so as to prove advantageous? What more than already named can I do to benefit it? Will the addition of lime or gypsum at the time of forking over be useful? I wish to use it on a clay loam.

Salisbury, Conn. W. J. PETTEE.

We do not think much fermentation will take place, but the layers will slowly decompose and make, when well mixed together, a good compost. Leave it untouched as long as convenient, and then intermix the whole. By cutting in a few feet it will be seen whether decomposition has been enough. Forking it over would be quite a task; if the ends could be sloped, and a yoke of oxen passed up on the heap, they would do the work very thoroughly and rapidly by means of a plow and harrow; shovelling off the mellow mixed stratum into carts below, and re-repeating the process. Or, if the pile is too soft for oxen, a portion may be cut off and thrown at the side, to be pulverized by the harrow. In forming such heaps the labor of mixing is saved by making each stratum as thin as practicable. The lime and gypsum may be useful, but would be equally so applied in any other way to the soil.

THE COUNTRY GENTLEMAN—My voice is but an echo of what seems to be a general opinion—the Co. GENT. is *indispensable* to the American farmer—highly practical in its teachings, full of useful and entertaining matter on every subject of interest to the farmer. *Two Dollars* is indeed a small consideration for 52 visits of the Co. GENT. I have had the pleasure of bidding him a weekly welcome since his "first appearance before the American people," and none of my daily, weekly or monthly visitors, have a more generous welcome than he N. G. M.

[For the Country Gentleman and Cultivator.]

Manufacture of Sugar from the Sorghum.

At a meeting of the Philadelphia Society for Promoting Agriculture on the 5th March, Mr. SIDNEY G. FISHER, the corresponding secretary, offered the following statement from MILTON CONARD, of West Grove, Chester county, Pa., in relation to the cultivation of the sorgho-sucre, and the manufacture of syrup and sugar:

Having on two former occasions presented to your society the result of some experiments made by me in the cultivation of the sorgho-sucre, or Chinese sugar cane, which were well received by the members, I am induced to think that my further experience on the same subject may be of some interest to them and to farmers generally.

The circumstances of the present time offer great inducements to the growth of this plant, which, if it was profitable before the war, must become more profitable hereafter, because the needs of the government will cause higher taxes to be laid on foreign sugar and syrup.

The experience of the past four or five years has established three points:

1. That it costs but little more to grow the sorgho-sucre than to grow a crop of Indian corn.
2. That from it can be manufactured sugar and syrup of excellent quality.
3. That the profit per acre is twice as large as that of any grain crop.

These points are proved by the following facts from my own experience and that of my neighbors. I have for four years past, on three to four acres, annually, in regular field culture, from land such as had produced an average crop of forty-five bushels of corn per acre, derived an average yield of 175 gallons syrup. The average wholesale price at which it sold was forty-five cents per gallon. The price charged per gallon for manufacturing was fifteen cents. The smallest yield 140 gallons, the greatest 218 gallons per acre.

My neighbors have generally put in a smaller quantity of land, and have in many instances, by more careful culture than I have given, obtained a much greater yield.

If we compare the crops of cane and corn, as stated above, at the average prices at which both were sold in our neighborhood, the account will stand thus:

175 gallons syrup at 45 cents,	$78.75
Cost of manufacture, at 15 cents,	26.25
Leaving a net return per acre,	$52.50
Value of 45 bushels corn, at 50 cents,	22.50
Balance in favor of cane,	$30.00

The aggregate of the annual product of syrup in this and the adjoining townships, for three years past, has ranged from 150 to 250 hhds., and promises greatly to exceed these maximum figures the coming season.

A chief difficulty in the extension of the culture of the cane heretofore has been the lack of suitable apparatus for manufacturing the syrup and sugar. The appliances for evaporating the juice having been variously constructed according to the ingenuity of operators, the results have been frequent failures, particularly in the quality of the article. These obstacles seem now to be fairly overcome by the introduction of "Cook's patent portable Evaporator," together with important improvements in mills, rendering them more efficient as well as more durable.

The samples of sugar and syrup herewith sent were made on Cook's Evaporator, without previous defecation, from cane kept until the last of November, and are in no respect superior to what may be made from any *mature* cane. I have already shown that the culture of the sorgho may be made profitable to the farmer. A word as to the profits of the manufacturer. It would probably be for the interest of both that the operations of each should be carried on separately. The success of Cook's apparatus for reducing the juice to a beautiful and pleasant syrup, and the ease with which the syrup granulates, forming sugar of a superior quality, renders the manufacture a safe investment if judiciously managed.

With a mill costing at shop,	$75.00
And No. 4 evaporator,	65.00
Freight and Fixing up,	20.00
Apparatus costing,	$160.00
Can be made per day 75 gallons syrup, at say 15 cents,	11.25
At a cost of five-eighths cord of wood at $4,	$2.50
Two and half men at $1,	2.50
Two horses, at 50 cents,	1.00
	$6.00

Which leaves a margin for "sinking fund" of $5.25 per day.

In our latitude the work may be continued successfully from the middle of September until the last of November. I offer this statement to the society as an inducement to farmers, and others, to embark in the culture and manufacture of the sorgho-sucre, convinced that the interests of agriculture would be thus promoted, and another element added to the commercial independence of our country.

I have necessarily, for sake of brevity, avoided details of the method of culture, and of the manufacture, but may here add that any inquiries on these points, so far as my information extends, will be cheerfully responded to.

West Grove, Chester Co., Pa. MILTON CONARD.

[For the Country Gentleman and Cultivator.]

APPLICATION OF MANURE.

There seems to be a good deal of diversity of sentiment, in regard to the best time of the year to apply manures. Such earnest advocacy of opposite opinions, many of which are the results of experience, shows that the time of the application of manure is not of essential importance. I think the vital point is, not whether the manure should be put on in the spring, fall or winter, but to be sure and put it on.

I have seen great effect from that which was put on in the spring, even if it had large quantities of straw in it; and certainly it is good to put on about the first of September, either on wheat or meadows. The plan of spreading manure on grass land in the fall, which was to be plowed for corn the next season, I have tried with marked success, and I do not doubt but it is well, when convenient to draw it out in winter. Perhaps it may be the true system, to give a dressing to cold grass land in the spring, especially if the manure has in it a good deal of grass seed. Very coarse manure, even clear straw, is beneficial, applied at this time. About the first of April is the best time, as it gets washed into the soil by the early rains, and the grass seeds germinate readily. But we do not miss much, if this is applied early in the fall, unless some of it has been allowed to waste in the summer. On dry and cultivated land it seems quite as well to make the application in the fall. On wheat of course it is.

I think that some are misled in their estimate of the superior value of manure which has been lying through the summer, by its being concentrated, so that what is a load in the fall, was two or three loads in the spring, and of course the same bulk or weight is more valuable. The value of two or three is condensed into one.

There has been a change in the practice of some farmers here, and I judge, from reading the discussions on the subject in your paper, of many in other parts of the country, which is to apply the manure more directly to grass, than as formerly to grain. The immediate result of this practice is a diminished crop of grain, and perhaps a diminished income from the farm a year or two, but the result in a few years, is the increased fertility of the soil, and consequently an increased product of grain also. This change in the practice of farmers here has been brought about partly by their estimate of the value of the grass crop, by many, as almost equal to the grain crop. The relative importance of grain and grass in a system of farming, is certainly changed in favor of the latter, and

the most important advantage of this change is the improvement in the fertility of the soil.

Therefore the manure should be applied to the benefit of the grass chiefly. Those who raise wheat will apply their manure at the time of sowing, and near the surface, to the very highest advantage of the succeeding grass. Where corn is a principal crop, the manure should be put on, if possible, at the seeding of the land, in anticipation of the corn crop. A heavy growth of grass, fed off by stock, is the best preparation for corn.

Amenia, Duchess Co. N. REED.

[For the Country Gentleman and Cultivator.]

WHAT THE ILLINOIS "COFFEE" IS.

Thanks to the gentleman who has introduced this article, GEO. R. HUFFMAN of Effingham, Illinois, I have received a few seeds of this plant, which he has grown for two years past, having received it as the coffee of Australia. An examination of the seed shows it to be a vetch —natural order *Vicia*, genus Cicer, from the Greek word kikys, force or strength. Hence the Cicerons had their name from the pulse or cicer which they ate, as the Pisons, from the pea, the Lentuli from the lentils.

This plant belongs to the Lin. system Diadelphia Diandria. It is an annual herb. The species to which these seeds belong is the *Cicer arietinum*, the chick pea, a native of Syria, Egypt, Italy, the Levant, found among the corn or grain. The seed has a projecting cheek, hence its resemblance to a ram's head, which gives the name. The seeds are eatable, raw or boiled, and constitute a considerable part of the food of those countries. It flowers in June and ripens in August; is grown in drills or sown broadcast.

Loudon, from whom most of my information is derived, describes three other species. *C. songarium*, with larger seeds, in Songaria and Persia. *C. soloniense*, in Europe. *C. nummunifolia*, or Moneywort leaved Cicer, is prostrate.

The *C. arietinum* has an acid exudation from its glands, which consists of oxalic acid. I find no reference to its use as coffee, but suppose it might answer as well as any other pea for that purpose. JNO. A. WARDER.

Cincinnati, March 1, 1862.

More about the Illinois Coffee.

MESSRS. LUTHER TUCKER & SON—My attention having been attracted to the raising of coffee in Illinois, by G. R. Huffman of Effingham county, by different articles in several papers—among the rest your correspondent at Wilmington, Ill., on page 145, vol. 19th—I was induced to try the coffee raising, and got from Mr. Mr. G. R. Huffman 50 seed of his coffee, with directions for cultivation. He says—plant in good corn land in drills, one in a place, and cultivate clean as corn, and thresh as beans when ripe. Now if I am not deceived, instead of it being identical with Rio coffee, as all the articles I noticed, stated, it is nothing more than the Garbanzo or Spanish Chick pea, or Coffee pea, which you speak of in vol. 10, p. 97, Co. GENT. I also enclose you two seed which I got from Mr. Huffman at the cost of $1 for 50 seed. Now if you think I am correct in my conclusions, you will please let us hear from you in the Co. GENT. D. J. WILLIAMS, JR.

Vine Hill, Versailles, Ky.

Our correspondent is not deceived. Mr. Huffman's Illinois coffee is nothing more nor less than the Chick pea —*Cicer arietinum*, as described by Dr. WARDER in the Co. GENT. of March 13, page 177. This variety of the vetch, though it has, according to Dr. DARLINGTON, been familiarly known throughout the civilised world for centuries, has several times of late years been introduced as something new and valuable. Lynch's Expedition to the Dead Sea brought it home under the name of "Hamoos Pea"—and in 1856 or 7, it was sent out from the Patent Office under its Spanish name, "Garbanzo." Several persons who tried it at that time, reported it as worthless.

CORN FOR SOILING.

EDS. CO. GENT.—Having had twenty years experience in the cultivation of corn for soiling for cattle, a few remarks on my success may be interesting to the readers of your valuable paper.

From experience I find the best chance for a full crop of fodder is on land that has been planted to corn the previous year, which, in the regular course of cropping, would come in with oats in the spring, and to be sowed with wheat in the fall. I select that portion of the field the most convenient to my pasture, for my corn, which receives a good dressing of barn-yard manure in April, and is plowed in to the depth of four or five inches, the ground then well harrowed and rolled down. The seed is drilled in about the first of May with a wheat-drill, at the rate of four bushels to the acre, and again rolled down, which is all the labor in putting in the crop, and needs no further cultivation.

Now my object is to have the corn start early, and make a good growth by the first of July, at which time the pasture is dry and short, and we stand in need of a change for our cattle to keep up the supply of milk, which we cannot have for a few weeks on the mowed lands; and as the cattle have the flies to contend with at that time, the corn is the best substance I have ever tried to keep up the supply of milk.

I commence to feed the corn about the 1st of July, when it is from twenty inches to two feet high, and continue to feed what the cattle will eat clean, twice a day, until about the middle of August, at which time we commonly have a full supply of pasture again.

One acre to corn is sufficient in a good season for 20 head of cattle, and I have received the greatest benefit from its use before the tassel shoots out, as the leaves and stalks are the most nourishing at that time.

I have frequently had from 15 to 20 tons of green fodder to the acre, and sometimes have had a surplus, which I have tried to cure for winter use with but poor success; as I wanted the ground cleared by the 20th of August to prepare it for the wheat crop, I had to take the corn off before it was ripe enough to cure for winter use.

By putting the corn on the land which you intend to seed with wheat, you can have the land in readiness to sow at the same time as that cultivated with oats, and receive the full benefit of the manure that was put on the corn, as only a small portion is exhausted by the corn, and the land will produce a heavy crop of wheat without additional manure. A BUCKS COUNTY FARMER.

A CONVENIENT SCALDING TUB.

Having made, on one of the many rainy days of the past summer, a new fashioned scalding tub or rather box, for scalding hogs, which gives good satisfaction, I will briefly describe it, believing that it may be of service to many of your readers. It consists of a box, 24 inches deep, 30 inches wide and 4 feet 6 inches long. One end is put in slanting at an angle of 45 degrees.

In the slanting end put five hard wood rollers, 1½ inches in diameter. These rollers are held in their places by two hard wood sticks two inches square, securely fastened to the sides of the box. The rollers should have considerable play so as to turn easily. I made my box of 1½ inch pine.

The advantages of this box over the round tub I find to be three. It is much cheaper, it requires much less water, and is labor saving. One man can scald a 300 lb. hog alone, with as little hard lifting as two can in the old fashioned tub.

Of course it should be made *tight* and *strong*.

ST. LAWRENCE.

[For the Country Gentleman and Cultivator.]

April---Suggestions for the Month.

" O, month that giveth April days,
So pleasant unto me.
Among the poet's sweetest lays,
Is ever one for thee.
And flowers in soil more verdant nurst,
That months to come may bring,
Will never charm me like the first
That wreath the brow of Spring." EDMOND.

The cheering and enlivening influences of spring have again returned. Dreary winter has departed. Old Earth has laid off her mantle of gloom and snowy whiteness, and will soon array herself in all her gorgeous beauty, and fan our brows with gentle zephyrs laden with the perfumes of roses, and cheer our hearts with the music of the groves.

In this latitude, farmers, in most localities, will commence some of the operations of the field in the month of April; and sometimes the weather is so favorable that they are able to plow and sow their spring grain, and to commence plowing for Indian corn; and some seasons the spring is so unfavorable—with so much wet and cold weather—that April glides away before a handful of grain can be put in the soil.

The plow and the harrow, the axe, pick and spade are the appropriate emblems of the month of April. The former must be used in pleasant weather only, while the latter may be used at any time.

Don't Commence Plowing too Soon.

By too soon, we mean before the soil is in a proper condition to turn up mellow and lively. Ground should always be allowed to *settle* after it has been frozen, before it is plowed.

The soil is rendered lighter and more porous by freezing and thawing; and after it has been frozen and thawed it settles back to its original compactness. Therefore, if it be plowed before it has settled, it will settle *after* plowing, and in a short period of time will be as compact as if it had not been plowed at all. But let it be plowed or spaded after it has settled to its former compactness, and it will remain mellow and friable for a long time, unless it is excessively wet.

Every farmer should make some estimate of his plowing and sowing, in order to know how many days will be required to complete this branch of business; and then, if the weather is unfavorable and the soil too wet, plowing may be delayed sometimes for a longer time, or until the soil is in a proper condition to be plowed and harrowed.

These considerations are of far more importance where clay predominates in the soil, than where the soil is sandy or loamy.

Hardening Teams.

Horses and oxen also, that have labored but little during the winter, may be as strong for a short time as those that have worked nearly every day; but their strength soon fails when they are hitched to the plow. Plowing is a branch of business that tries the strength of a team. There is "no let up"—no relief in the drawing—as there is when they are hauling a load on wheels, or on a sleigh. It is one constant stretch of traces and exercise of one set of muscles, and therefore, they soon become very tired and stiff and sore.

And so it is with men who have labored but little during the winter; when they commence hard labor in the spring, they soon feel very much fatigued and sore, after laboring only a day or so.

My own practice with respect to hardening teams and men too, has been to plow only half a day's work at first, during the day. For example, let a team plow two or theee hours in the forenoon, and about the same time in the afternoon, and allow them to stop at each end, say thirty or sixty seconds, if the rounds are long. If they plow half an acre on the first day, it is all that they should be allowed to plow. After they have become hardened to it, they will plow from one to two acres with more ease and less fatigue than they will even one-third of an acre, when they first commence.

So with workmen. Let them work half a day at some light work, when they have a job of heavy work on hand. For example, if a man has been spading and shoveling for half a day, let him haul stone or rails, or make fence the next half day, until they have become well hardened to labor.

Harden the Necks of your Teams.

Some horses have a very tender skin, and the harness will sometimes gall them cruelly, in defiance of all means to prevent it. But, many times, the *true* cause is attributable to a bad collar, bad harness, or to a good harness improperly fitted to the animal. A yoke of bows that do not fit the necks of oxen well, will often gall them, and unfit them for labor, when if these things were as they ought to be, they would work with far more ease, and their skin would not be galled.

When a harness or yoke of bows do not fit properly, and their skin is liable to be galled, bathe those parts before they are galled with cold water, until the outside skin appears quite soft, and then bathe those parts with a strong decoction of white oak bark. Let this be done every day, and the skin will soon become much harder and tougher than it usually is. A little care in *preventing* an ill, is far better than much labor and skill in *curing* it, or in endeavoring to obviate its injurious effects.

The Way to Harness a Horse.

You may laugh gentle reader, as heartily as you please at the idea brought out in this caption. But how many men that are accustomed to use horses from year to year, can harness a horse *correctly*? Not one in ten! True, they may get a harness *on* the horse, and it may fit *well*; and it *may* fit like father's boots on his little son eight years of age. There is more science after all in harnessing a horse *correctly*, than we are apt to think of. Let us mention the principal and important points.

The collar is the *first* thing of importance. That large thing that will admit a man's arm between it and the neck of the horse, is very unfit for a horse to work in. The collar should fit as neatly and closely to the neck, as a pair of boots that fit well. Then if it is soft and supple as it should be, it will seldom gall the skin, if the *hames* is properly made and correctly adjusted.

The hames should fit the collar well, and should not be too far apart at the top, as they often are. The staples which hold the side straps and traces, are almost always attached *too far up* from the lower ends. A horse cannot draw well, when the traces are attached near the top of his neck. If a horse is apt to gall near the top of his neck, take out the staples and put them lower in the hames.

If the back bands are just right for a wagon, they will be too short when plowing, and will gall the backs of the team. For this reason, some horses always have a sore back as soon as they commence plowing. Let the hip or "lazy straps" be adjusted of the proper length, lest they gall the rumps if too short, and lift the plow out when it should run in. S. EDWARDS TODD.

PRESERVING TIMBER.

We observe in some of the papers a notice of Cullen's patent composition for this purpose, to be applied especially to railway timber. It consists of coal tar with one-twelfth powdered charcoal and quicklime. We have no doubt this is a good application, but the only desirable object in adding the charcoal and lime, appears to be to make it *patent*. It is even possible that coal tar would be better alone, as it would be more liquid, (especially if as warm as would be safe to heat it, and applied with a wire brush,) and would penetrate deeper into the pores of the wood. Where it does so penetrate, decay is nearly impossible—we have found that light wood, placed so as to be exceedingly exposed to rotting, has lasted twenty times as long when so treated. If it is necessary to make the tar thicker for any outside work, whiting, pulverized dry clay, or very fine sand, answers an excellent purpose, and perhaps makes as good a composition as Cullen's.

FARMERS' CLUBS OF ONONDAGA CO.

FARMERS' CONFERENCE.—A general conference of the Farmers' Clubs of this county is being held at the City Hall to-day. The object of the conference is to consult upon the subject of Agriculture, and the best means to advance the interests of that branch of industry.

The meeting was called to order by Mr. SQUIRE M. BROWN, who stated the objects of the conference. An organization was effected by calling Mr. LUKE WELLS of Otisco, to the Chair, and by appointing Mr. D. HIBBARD of Pompey, as Secretary. There was a good attendance of the members of the various Farmers' Clubs of the county, and of others interested in the objects of the meeting.

At twelve o'clock the meeting adjourned until half-past one, when Mr. L. H. TUCKER, of the COUNTRY GENTLEMAN, is to deliver an address.—*Syracuse Journal, March* 19.

At the meeting alluded to in the above extract, the following Farmers' Clubs were represented by the presence of many of their members, although the recent thaw had rendered the roads so bad that the number who came was not quite so large as might otherwise have been anticipated:

Farmers' Clubs.	President.	Secretary.
Skaneateles, - - -	Joab L. Clift, -	S. M. Brown.
Manlius and Pompey,	Nathan Seward,	Wm. M. Smith.
Clay, - - - - -	Mr. Schoolcraft,	C. C. Warner.
Otisco, - - - - -	Luke Wells, -	C. Niles.

The meeting was an interesting one, and can scarcely fail to bear good fruit in bringing the Farmers of Onondaga County into more frequent communication with one another, and in promoting the co-operation and efficiency of their respective Clubs. Another general meeting will be held in Autumn, and it is proposed to continue such conferences two or three times a year hereafter.

The object of the address was to review the various directions in which Farmers' Clubs here and in other countries, have been found subservient of good. Two of the various suggestions that were submitted, appeared to strike the meeting more forcibly than any of the others, if we may judge from the animated and interesting discussion which followed,—viz.: the Collection by each Club of the *Agricultural Statistics* of the Townships embraced in its organization, and the Establishment of *Market Fairs*, at such time or times during the year as might be found expedient.

We most sincerely hope that efforts to accomplish both these objects may be made, and may prove successful. We have recently said so much on the question of Agricultural Statistics that we do not care to enlarge upon it farther at this time. But upon that of *Market Fairs* may be added a single word:

1. Every farmer has, at more or less frequent occasions throughout the year, various products to sell, and various animals or articles to buy.

2. Instead of his spending day after day in running around the country to find what he wishes to purchase—instead of his accepting the offer of any sharp or irresponsible party who comes along, for what he has to sell, or transporting it a considerable distance with the risk both of not finding a sale and of making a bad one if he does sell—the institution of a Market Day simply has for its object *to bring buyers and sellers together* at some one central point, at the time which will be likely to accommodate the largest number of both.

This is the whole thing in a nut shell. Now why cannot our Onondaga friends profitably turn the general reunions of their several Farmers' Clubs, which have been already proposed,—into such "Fairs" or Market Days? Why is it not a good hint for similar Town Farmers' Clubs in other localities, both to follow the example of the Clubs of Onondaga in coming together for mutual consultation and discussion, but also to vie with them in introducing County Market days for all sorts of agricultural stock and produce, seeds, implements, &c.? Manufacturers, local and from a distance, would soon take care to be represented; and buyers too would learn to be on hand, and would by degrees come to depend on the recurrence of these occasions for the selection of what they want, from the wider range afforded for choice.

But we have not room to argue the question of Market Fairs at length; and should drop the question for the present, to add that at the Meeting at Syracuse, beyond the incidental discussion of the foregoing and other questions, favorable reports were made by members of the Clubs above mentioned, as to the activity and prosperity of their several organizations. It was stated that there is also a thriving Club in operation in the town of Van Buren. The meeting evinced the existence of a cordial spirit of good feeling and brotherhood, as well as of improvement and enterprise on the part of the Farmers and Farmers' Clubs of Onondaga.

[For the Country Gentleman and Cultivator.]

TOBACCO CULTURE.

Those who are about to enter upon the culture of tobacco should be prepared to find that it is not all profit and no work. It is estimated by those who have had a good deal of experience in it, that the labor required by an acre of tobacco is equal to six acres of corn, and much of it is of the severest and most disagreeable kind, and is generally called for when most needed for other crops of the farm. There is a saying here that tobacco requires the best piece of land, and all the manure, and all the labor, and all the shed-room of the farm, and adds no manure.

The product of this crop is sometimes very heavy, as much or more than two thousand pounds per acre, but it probably does not average over one thousand pounds. Of this there are two or three qualities, the second and third very much lower in price than the first. So that when tobacco is called 10, 12 or 15 cents a pound, the average price of the whole crop is much less.

Now let any one estimate the nett proceeds of six acres of corn, and compare it with the nett of one acre of tobacco; especially if the corn crop be allowed the same good land and thorough cultivation.

It is considered against the rules of good farming to put the manure on the best land, and the tendency of tobacco culture is to the neglect of other interests of the farm.

It is more allowable, in those districts of country, as in some places in New-England, where there is but a small proportion of the farm that can be cultivated, and that suitable for tobacco; where the principal part of the farm is given to pastures of necessity, and a few acres only of plain or intervale is subject to the plow. It may be the best the owner can do to get as much as possible from these few acres, let alone the rest.

But the farmer who has any extent of improvable land will find his chief interest in that style of farming which promotes the improvement of the whole. N. REED.

Duchess Co., Feb. 13, 1862.

THE BROOKLYN HORTICULTURAL SOCIETY will hold their regular spring exhibition at the Academy of Music, Brooklyn, on the 23d, 24th, and 25th of April. It is expected this will be the best display ever made by this Society. Any information regarding it can be had of the Secretary, C. B. MILLER, No. 29, Broadway, N. Y.

OUR BEAN CROP---1861.

Eds. Co. Gent.—As there seems to be considerable inquiry in regard to white beans and their culture, perhaps an account of our last bean crop, its management, products, &c., may be of interest to your readers. We have planted beans more or less for the last seven years, and claim to know something of their culture—though we do not know it all yet—we learn something new every year, both from others and our own experience.

May 17*th.*—Finished plowing five acres of corn-stubble, in order to sow oats on the lower two acres. Intend to plant the upper part with white beans. Would not have plowed for the latter crop yet, but for the fact that the ground needed plowing up and down, rather than along the slope.

31*st.*—Harrowed and marked off bean-ground—rows two and one-half feet apart—with a common corn marker marked across the furrow. Planted in the same direction, or along the marks, with Wakefield's Hand Planter, about eighteen inches apart, six to eight beans per hill. Heretofore we have planted across the marks, but find that it leaves the hills irregular in the rows, one-half being on one side, and one-half on the other, as the planter goes and returns, which is inconvenient in cultivating and hoeing.

June 1*st.*—Finished planting the beans. Put in about a dozen rows of the China Red-eye—the balance being the medium white bean.

July 6*th.*—Cultivated the beans with a common shovel-tooth corn cultivator. Hoed some, also; very few weeds to be seen—we merely go along and level the dirt around and between the hills.

July 12*th.*—Have at odd spells got the beans all cultivated and half or more hoed—working them only while dry. The rest will have to go as they are, for haying and harvest are upon us.

Sept. 6*th.*—Beans fit to pull. Let the job to a German woman at $1 per acre.

We find the beans well podded and ripened very evenly. Wherever we find a green stalk, it is much better policy to let it stand than to gather it with the dry ones, as the unripe beans are sure to mould and color, injuring the market value of the others. The first day's pulling, shelled badly; we estimated the loss at $5 on the first half acre. The ground was very dry and warm—the day a warm one—after that we had some rain and cooler weather, and lost but few from shelling. In pulling they were laid in small bunches of four or five hills, and in two days of fair weather were fit to draw in. Some were wet by showers after pulling; these we turned with forks, and lost none from the rain, though at one time we feared half an acre of the best would be spoiled. When drawn they were spread about on the scaffold, and "over head," (over the barn floor,) about two feet thick, and thus dried perfectly, except a small place near the centre, where the dust and shell beans fell most thickly in pitching. Even here but a few stalks were seriously injured.

The imperfect and colored beans were the result in almost every case, of the lower end of the pods growing down into the soft dirt, which had been moved *towards* the hills in cultivating. We should have had a cultivator, (like that we used one year,) in which the outer tooth can be turned to throw the dirt from or against the hills, as you like, and in cultivating and hoeing beans, we should not raise the hill more than half an inch above the level of planting time. It is important to give clean cultivation. On a clean soil this is very easy, as, planted at the distance named above, the hills soon cover the entire surface. The crop when free from weeds will be at least three times as valuable as when overrun by them, and the condition of the soil for future crops is enough better to pay the cost of weeding.

Sept. 19*th.*—Finished drawing in the beans; a few days afterward sowed the ground to wheat, harrowing in about ten loads of fine manure per acre with the seed.

Sept. 21*st.*—Cleared up barn floor—threshing a few more beans—had 12 bushels. They were not quite dry enough to thrash easily or to turn out as bright as they will in the winter, and need sifting and picking over to come up to prime quality.

Dec. 11*th.*—Thrashed beans another day—now in capital order. The sheep take hold of the straw as though they loved it.

26*th.*—Sold 26 measured bushels at $1,87½ per 62 lbs. Weighed nearly 27 bushels—brought us in a little over $50.

Jan. 11*th.*—We have the balance of the beans thrashed; there are 55 bushels, which will weigh over a bushel more, making the whole crop (including 2 bushels China Red Eye) 84 bushels, 28 bushels per acre. We can now sell at $1.75 per bushel, which will make the crop worth $150, or $50 per acre, reserving some for seed and family use.

The cost of cultivating an acre of beans in the best manner, including the use of the land and *all* expenses, will not exceed $15. The crop on good soil, planted by the first of June, and carefully harvested, will not be less than 30 bushels per acre. (Ours would have been that, but for the fact that the Red Eye beans planted, were some six years old, and had been damaged by getting wet a year or two before, and the ground was not more than one quarter occupied.) So at 50 cents a bushel, (what we sold one crop for,) one gets pay for his work and capital. We have said nothing of the straw—it is worth half as much as the best hay for sheep feeding. We had rather have two tons of bean straw to feed in connection with three tons of hay, than to have four tons of hay, to feed alone.

Beans can be grown at a cost of $10 per acre—if planted on clover sod turned over immediately before planting, weeded by turning on sheep, and we have good weather for harvesting, so that it can be done without stacking.

You have spoken of their value for feeding to sheep and milch cows; for the latter mixed with corn or barley and ground. We have tried them, and value them highly. Pork has been fattened upon such a mixture at a very cheap rate. For sheep they need no grinding, but should be mixed with corn and oats to produce the best effect. Indeed, a mixture of grains is best for any animal, and a change of fodder is equally acceptable to their appetites. Albert. *Western New York.*

Loss of Weight in Hay and Corn.

Editors Country Gentleman—I have made an experiment as to the loss of weight in hay when put in the barn, and when taken out at this season. Some of my neighbors bought hay in July, and to accommodate the sellers, had it drawn at once to their carriage-houses, the price to be made in February. I told them they would lose by the operation, and in order to see what the loss was, I had a load weighed and put by itself in my barn on the 20th of July:

Weight, 20th July.....	2,001
do. 18th February, ...	1,449
Loss,.....	552 or 27½ per cent.

The experiment was carefully made. I have a hay-scale on my farm—(in four years it has saved more than its cost)—20 feet from my barn door, and I do not believe five pounds of hay was lost. Hay is worth $15 a ton, so that bought in July cost $20.65.

The cob in a bushel of good corn in November weighs 19 lbs.; in May, 7¼. Millers charge six cents per bushel for grinding corn, either shelled or in the ear; so if ground in the ear, when dry you pay 12 cents for the corn to make 56 lbs. of real feed instead of six. *Will it pay?* I think not.

I wish some of your cornstalk fodder disputants could see my cattle fed on them for two months. They would confess they are worth something. I have 20 head put in the stable on the 6th of December, and if not sold, will leave it for the first time in April. Warm, well ventilated stables, regular feeding, and good leaf bedding, with me saves fodder, keeps healthy cattle, and makes a manure pile. W. H. Denning. *Fishkill Landing.*

[For the Country Gentleman and Cultivator.]

FARMING IN MARYLAND.

MESSRS. EDITORS—I have for some years read the COUNTRY GENTLEMAN with great interest, but have been surprised to find that the products of your land, even in the great State of New-York, by all your enlightened farming, by no means excel those of my neighborhood, and I would really be sorry if I could not beat many of the statements in your paper. Besides we have in our neighborhood as good and pure Alderney, Devon and Hereford cattle; as pure South-Down sheep, as good Suffolk, Berkshire and Chester pigs, as can be found in the country. I have but a small farm of 118 acres, of which about 90 acres are in cultivation. I raise wheat, rye, corn, hay, considerable potatoes and other roots; also beans, peas, &c. I planted about six years ago, over 1500 fruit trees, where heretofore forest trees occupied most of the place. I have also a vineyard of about 5,000 grapevines which last year bore some grapes, but next year I expect to make a full crop. I also raise an abundance of strawberries, rasberries, currants, &c.

When I bought the land, about six years ago, about 50 acres of it was in wood-land. With a Pittsburgh Iron plow, I plowed deep from the start, two men going along with plow cutting the roots. I then spread 50 bushels of lime to the acre, and planted corn, which, well cultivated, always gave a good yield. Next year I followed with peach blow potatoes. After they were taken out the land was clean. The spring following I sowed oats and clover. The next year after I always had a good crop of clover, which I mowed once; the second crop, which generally is 12 inches high, I plow down in the fall, put 250 pounds bone dust, 2 bushels salt and 15 bushels unleached ashes on an acre, and sow wheat, or plant corn next spring. So far I have succeeded remarkably well with every crop; but I consider now that my land has done all it could without manure. But by this time I am well provided with the materials to keep up my land. I feed all my hay, corn fodder and root plants to my 14 head of cattle, 5 horses, and enough hogs to make about 4,000 lbs. of pork. I sell no straw, but use it all for litter. I have this season over 400 three-horse wagon loads good stable and butcher manure, and manure from over 400 chickens, which is all carefully taken care of, and mixed with muck and plaster; it goes into the hills of my corn.

I don't pasture, but feed my cattle in winter on good salted hay, cut when in blossom, good corn blades and tops, (not stalks,) and beets, mangold wurtzel, carrots and turnips, in warm stables. On rainy days my men have to cut the fodder, and it is fed, with a little mill feed and oil cake meal, for a change. During the latter part of spring and in summer I feed my cattle in the stable or in a shaded yard, on grass, clover, cornfodder, mowed green and carted to the stables or yard. In this way I save all the manure, which enables me to feed my land well, and my land will feed my cattle in return from a few acres, where it would take four times as many acres to feed them half as well, and they are not tormented by the flies.

I have no manure sheds, and don't wish any, but I have always good muck to spread over the manure heap whenever it is brought out of my stables. I like the rain to fall on it, but not from the roofs. All the soap-suds and urine from the house is also spread over it. Besides the sun is only on it in the morning.

I mix all my manure as much as possible—first a layer of horse manure, then cow, and sometimes hog manure, and then muck. My pit will hold 125 loads, and I never have any fire-fanged. The urine from the stables runs into the manure pit. I plow deep, and always in the fall. I plow my manure under whenever I can, and I am never afraid of its sinking down; if so, the subsoil would always be the richest, which you all know is not so. I am more afraid of the sun and wind. I sow in spring clover seed on wheat, rye, &c., in fact wherever I can, which grows up to 10 or 12 inches by the next fall. I do so even in land where clover has grown the previous year, and I always have some green matter to plow under with the wheat stubble.

I am a strong advocate for rotation of crops, and of underdraining.

I shall now haul from Baltimore, which is 8 miles, shell lime, 50 bushels to the acre. I buy only butcher manure, which I compost with bone dust, muck, salt, ashes and plaster. No guano or other mixtures. Bone dust gives my land the phosphates, ashes the potash, salt the soda, plaster the sulphate, and the lime the magnesia. As to the ammonia, I trust to the stable and hen manure, and to the surrounding elements. I would add that my cows do not chew bones any more since I put bone dust on my land.

Baltimore Co., Md. G. H. MITTNACHT.

[For the Country Gentleman and Cultivator.]

SAVING GRASS SEED.

MESSRS. EDITORS—In order to have *good* hay—and this is a very important item—we must start aright, and sow clean seed. "For whatsoever a man soweth, that shall he also reap." If he sows sorrel, dock, daisies or Canada thistles, he will not be very likely to get a good crop of timothy or clover. Hence the importance of *knowing* that the seed sown is free from foul stuff. It is very difficult to *know* this if we buy the seed; for there is a great deal of this article bought and sold, that no progressive farmer would like to sow upon his land, if he knew just what it was. I have seen grass saved for seed that was too foul to make good hay. I therefore think that every farmer should aim to save seed sufficient for his own use, but not in the slovenly way practiced by some, of saving it from the mow during the winter when foddering out the hay, or by thrashing a part of the mow.

There are serious objections to this mode of obtaining grass seed. In the first place, grass that is not cut before the seed has matured sufficiently for seeding makes very *poor hay*—is not worth more than half as much as it would have been, had it been cut when in full bloom; and then you are pretty sure to get foul seed. Very few meadows are clean enough as a whole for seed.

The best way to do this business, I think, is to select a portion of the meadow where the grass is not so stout as to be liable to lodge—if the grass is very thick, the heads will not be as long nor the seeds as plump, and where it is clean, free from thistles and weeds, and let it stand until the heads begin to turn brown and the seed is pretty hard—ripe. Then with a cradle cut off the heads just low enough, so as to be able to bind them in small bundles. As soon as the grass is wilted, bind and set it up into bunches, and let it stand several days, if the weather is good, and if you have hay caps, put them over it. The best way is to thrash it at once as it is drawn in—this saves considerable loss by shelling. After the seed is cut the bottom can be mowed, and if it is pretty thick with white clover and fine grass, it makes *tolerable* hay. *Caution.*—Do not make too free use with the stems after thrashing as fodder. Cattle are affected by eating them very much as they are when kept on straw.

By saving grass seed in this way, every farmer can have that which is clean if he chooses. At any rate, if his meadows are foul, he cannot throw the blame upon some rascally brother, who raised the seed and put it into the market. J. L. R. *Jefferson Co., N. Y.*

AN ENERGETIC FARMERS' CLUB.—The Annual Report of the Farmers' Club of Little Falls, (for which we are indebted to X. A. WILLARD, the Secretary,) indicates it to be a prosperous organization. There are 225 permanent members, and $480 were awarded last autumn in premiums. The whole receipts and expenditures were nearly $900 each—over $600 received from the sale of tickets.

[For the Country Gentleman and Cultivator.]

NOT GYPSUM ENOUGH USED.

Messrs. Editors—It seems to be a well established fact that the use of "gypsum or plaster of Paris," is beneficial to many kinds of soil, and that some plants, as the clover, are more benefited by it than other grasses.

Now if it is a fact that some farms are benefited by the use of it, it is also a fact that some farmers do not use so much of it as would be for their interest. I have a lot of land in Deerfield Meadow, a part of which is a low flat, and is flooded by the Deerfield river in high water. This low land is sandy, and had been mowed many years up to 1855, when it was planted to corn, with a little manure in the hill, and the crop was light, not more than 25 to 28 bushels to the acre.

The following year (1856) it was manured broadcast with about fourteen cart loads to the acre, and plowed in about 6 inches deep, and planted again with corn. At the third hoeing (in July) it was seeded liberally with herdsgrass and clover. The following spring (1857) the stalks were cut close to the ground, and carted off, and about 100 lbs. of plaster sowed to the acre. A heavy crop of grass was cut from it the last of June, and a lighter, though a very good crop of rowen, was cut in September.

The following spring, 1858, about the same amount of plaster was sowed upon it again, and a good crop of grass was the result. It has been managed in the same way to the present time, (sowing plaster in the spring,) and I think a large profit has been realized from the plaster so used.

I have used about 100 lbs. to the acre also on my pasture annually, (which is a clay loam,) and I am satisfied that the benefit derived from the use of it is more than 100 per cent.

Three or four years since one of my neighbors living three-fourths of a mile west of me, sowed two casts of plaster on a hill pasture west of his house, from the foot of hill to the top. Those two strips of land where the plaster was sowed could be distinctly seen from my residence, as the grass was very green and luxuriant in contrast with other parts of the field. Many pastures in this vicinity have become very productive by the use of plaster; it not only acts as a "retainer of ammonia," but "converts the humus in the soil into food for plants." I have the authority of the "American Muck Book" for the following: "Native plaster contains 21 per cent of water, 33 of lime, and 46 of sulphuric acid."

Deerfield, Mass., 1862. JAMES CHILDS.

[For the Country Gentleman and Cultivator.]

CORN GROWING IN MASSACHUSETTS.

Editors Country Gentleman—I notice that D. Davis of Fall River, Mass., and C. B., wish me to inform them how I raised the crop of corn alluded to by J. W. in your paper of Feb. 20.

In the first place it is very important to have the best seed that ripens in the field standing. It should be fully ripe before it is gathered, then braided up and hung in a cool, dry place. Weak seed produces a weak plant. My crop, which I weighed, was raised in 1860. My land is sandy loam. I manure with the pure article from my stock. I load about twenty bushels into my horse-cart to a load, and dump the load at convenient distances apart to spread, and turn that down eight inches, and turn up a like crop of manure which was placed there in 1859. I plow green sward the day before I wish to plant. The variety of corn, the Cap or Canada, called here the "Demond corn." I drill my corn in with a machine, about three feet apart, two and a half stalks to a foot, cultivate twice with care, and an eye to every weed, and hoe flat, or with no hill. My planting was finished on the 25th of April.

If corn is your object, plant as early as your ground will allow, for early planting produces small stover and heavy corn—late planting produces large stover and lighter corn.

I commenced harvesting Sept. 7, 1860—had some ground on the 10th of September, and it ground very well.

As I have not the corn to show C. B., and as he appears to be a little skeptical, I will refer him to my neighbors, and W. A. Robbins, who lives with me now, who weighed and measured the same—also to J. H. Chapin and J. H. Demond of Springfield, Mass., and A. L. McKinstry of Chicopee, Mass. The above gentlemen gave their particular attention to the crop—also many others that I could mention. C. B., don't be afraid to write your name and place of residence in a good cause.

Agawam, Mass. WILBUR WILSON.

P. S.—The stover of the crop of corn which J. W. refers to in the Co. Gent. of Feb. 20, weighed when thoroughly dried, 5,800 and odd pounds.

We have also a reply to Mr. Davis and C. B., from J. W., which the above renders it unnecessary to publish; but we may add from J. W.'s notes, what Mr. Wilbur does not state, that the land on which the large crop of corn was raised, was in corn and turnips the previous year, and that fifteen cords of manure were applied per acre for the crop of 1860.

[For the Country Gentleman and Cultivator.]

Legal Weight of Grain Per Bushel.

Eds. Co. Gent.—In your paper of March 13th, on the 176th page, J. S. H. inquires if the standard weight of a bushel of corn has been changed from 56 pounds to 58 pounds, and if yes, at what session of the legislature such a change was made, and where the law may be found. I answer, the standard weight of a bushel of corn was changed from 56 pounds to 58 pounds by act of the legislature passed April 15th, 1857. See 2d vol., p. 190, of Session Laws of 1857, Chap. 560:

§ 1. Section thirty-six of title two of chapter nineteen of part first of the Revised Statutes, as ammended by chapter three hundred and seventy-four of the Laws of eighteen hundred and thirty-six, is hereby amended so as to read as follows:

§ 13. Whenever wheat, rye, Indian corn, buckwheat, barley, oats, beans, peas, clover seed, timothy seed, flaxseed or potatoes shall be sold by the bushel, and no special agreement be made by the parties as to the mode of measuring, the bushel shall consist of sixty-two pounds of beans, sixty pounds of wheat, peas, clover seed or potatoes, fifty-eight pounds of Indian corn, fifty-six pounds of rye, fifty-five pounds of flaxseed, forty-eight pounds of buckwheat or barley, forty-four pounds of timothy seed, and thirty-two pounds of oats.

Ogdensburgh, March 14, 1862. DANIEL MAGONE, Jr.

[For the Country Gentleman and Cultivator.]

CROSS DRAGGING.

Messrs. Editors—I noticed a few weeks ago some remarks by one of your correspondents—I don't recollect the writer's signature—in regard to dragging in grain, which fully met my views. He said, in substance, that after grain was sowed, the ground should be dragged but *one way*—that *cross* dragging brought more of the seed to the top of the ground than it covered, and was therefore worse than useless. I think the writer quite correct. It is a better way, in my opinion, to fit the ground thoroughly *before* sowing the seed, so that it shall require but once going over with the drag *after* sowing the seed. And this last dragging should be *crosswise* of the last dragging *previous* to sowing the seed.

Some farmers are in the habit of *partially* fitting the ground before sowing the seed, and then attempt to "kill two birds with one stone"—fit the ground and cover the seed—after seeding. The first bird, I think, had better be killed before the seed is sown. J. L. R.

Jefferson Co., N. Y.

☞ A prize Mangold Root grown in Berkshire, England, the past season, and lately exhibited, weighed 31 pounds!

[For the Country Gentleman and Cultivator.]

On the Construction of the Bee-Hive.

MESSRS. EDITORS—M. QUIMBY'S Mysteries of Bee-Keeping Explained, is the most practical common-sense book on the management of bees and bee-hives, that I have read in any language. To learn how to have *good luck* in bee-keeping, and how to get surplus honey of the choicest kind and in the largest quantity, M. Quimby's book should be in the hands of every owner of a hive with a swarm of bees.

In the Bee-Keepers Department of the COUNTRY GENTLEMAN, last Jan. 2d, I find an article on the construction and size of hives from the pen of that celebrated American bee-master. M. Quimby being of the opinion that the only improvements which can be made in a bee-hive, must be to afford facilities in managing the bees, by easy access to the interior of the hive. It is evident that those hives constructed upon the movable frame principle are the best, and I will not deny the fact that they do give great advantages in the hands of experienced and skillful bee-masters. But, may I be permitted to say that all those movable frame hives I am acquainted with, are, upon the whole, ill-shaped and unwieldy constructions to move about with, and they do in no shape or manner compare with the light, simple and nicely proportioned Quimby box hive and cover, which can be carried about any distance, affording all the facilities necessary to collect the purest honey, and every way adapted to the best management of the bees during winter or summer as consistent with the climate and the wants of the nature of the insect. This Quimby hive must therefore, for common use and general management, receive the preference over all other hives, being cheaper, easier of construction, and much less complicated than the movable frame hives. It is, in my humble opinion, the most simple, and at the same time the best hive now in use. As proof thereof, I will only state that all those who have abandoned their numerous patent hives, and returned to this old box hive, have, invariably, by following the instructions laid down in Quimby's book, secured *the best of luck* with the bees.

We are again fast returning to the days when "the little busy bee will improve each shining hour." The swarming and honey making season will be upon the bee-keeper in due time, and hives should be formed ready for the moment. Farmers who keep bees should make their own hives, and the leisure hours of March may be improved to make the number of hives which will be needed, that they may be painted somewhat beforehand.

For the benefit of your bee-keeping readers, it may perhaps not be uninteresting to give you my mode of constructing the hive. My introduction of the loose bars and rabbets in the upper part of the hive is no novelty, and but a very trifling increase of expense in material and labor; the whole concern of hive and bars, cover, bottom-board and two coats of paint, does not cost me over seventy cents to the single stand. But the hive thus constructed with the guide bars, &c., is an improvement which has given me full satisfaction these two years past, and to all intents and purposes, I consider the hive thus improved, the most convenient for summer or winter management of the bees that I have ever used.

Using the Quimby hive as described in COUNTRY GENTLEMAN, Jan. 2d, 1862, roof sticks and all, I have not wished to depart much from the almost classical dimensions of that hive. To introduce the guide bar, I have therefore merely added one half inch to height of the hive, making the box 14 and one half inches high, instead of 14 inches. The upper edges of the front and rear sides of the hive are next rabbeted out half an inch square, (using inch pine boards for the hives) to receive one inch triangular guide bars or slats, cut out at each end to within the quarter of an inch of their tops, and to rest flat with the angle down in the rabbets. These triangular guide bars, eight in number for a hive of the Quimby size, are nicely adjusted, and fastened in the rabbits with a ¾ inch brad, leaving opening or interspaces distributed between the bars as follows: three-eighths of an inch interspace between the two centre guide bars, seven-sixteenths of an inch interspace between the next three bars on each side of the centre bars, and having half an inch interspace between the last guide bar and the sides of the hive.

The advantages derived from these triangular guide bars, left rough as they come from the saw, are—1st, that the bees uniformly build their combs straight down along the angle of the bars, and the top board of the hive with the same number and rows of holes being screwed to the top of the hive with four inch and a half tapering screws in a manner that the rows of said passages will run crosswise of or at right angles with the inside guide bars, it leaves an opening or nearly so, between every comb, and facilitates free and unobstructed ingress and egress of the bees to the surplus honey boxes when placed on the top of the hives.—2d. Perfect ventilation is secured at all times but particularly in winter, without inverting the hives, by merely opening these passages to the surplus honey boxes in the top of the hive, or removing the top board altogether, as the necessities of the swarm or the place where the bees are wintered might require.

A dark cellar, not too warm or too excessively damp, where the temperature is even during winter, not over or below 40° above 0. of Fahr, is a good place to winter bees. In November, or at the approach of winter, before removing the hives to the dark cellar, the weight of the empty hive being known, they are weighed again—the hives being numbered, this number and weight is put down in a little book kept for the purpose, and the contents of hives can be ascertained at any time. The passages in the honey board are next opened, or the honey board is unscrewed and entirely removed, as the case will require. The bees are left slumbering in the dark, undisturbed excepting to clean or change the bottom boards of the hives every 30 or 40 days during winter. If feeding is found necessary with any of the swarms, pieces of comb containing honey are put on the top of the guide bars; if honey in the comb cannot be had, strained honey may be used and poured in old pieces of empty combs or small round shallow dishes, with concentric grooves for feeding troughs, like those described in Bevan's work on the Honey Bee, and the bees thus wintered come out in the spring very little diminished in number or stock of honey, and with their combs as clear, bright and sound as can well be expected after a confinement of three or four months. J. N. B.

Jefferson Co., 15th March, 1862.

[For the Country Gentleman and Cultivator.]

How to Get a Large Crop of Corn.

It has been fully proved in this warm calcareous region of Western New-York, that the largest yield of Indian corn can only be grown when the seed of the many rowed dent variety is imported direct from the prairies, and early planted on a highly manured, well drained soil, and afterwards thoroughly cultivated. JOSEPH WRIGHT of Waterloo, has not failed once in the last three seasons to get over one hundred bushels of shelled corn to the acre—Illinois red cob dent corn—while the improved flint variety in the next field, with the same amount of manure, on like soil, yielded full one-third less grain, with a heavier cob. He will procure more seed from Illinois this spring to plant another eight acre field. S. W.

[For the Country Gentleman and Cultivator.

PRODUCT OF A SHORT-HORN HEIFER.

LUTHER TUCKER & SON—I send you an account of milk and butter produced in ten days by my Short-Horn heifer Bell-Flower 2d. She calved February 6th, and will be four years old the 21st of March—made from the 13th to the 18th inst. ten pounds ten ounces of butter; the remaining five days eight pounds thirteen ounces. The quantity of milk was a little more the latter part of the trial, the butter less, owing, I think, to the change of weather, which was quite unfavorable in gathering the cream. She gave during the ten days of trial 197¼ quarts of milk, making by weight 426 pounds, the same milk producing nineteen pounds seven ounces of butter. Feed was hay of excellent quality, and six quarts provender per day. She had given milk one year fourteen days previous to being dry, which was six weeks only to the time when she came in milk again.

Her dam Bell Flower, when four years old, in twenty-one days of the month of April, and ten days of the month of June, gave five barrels ten and a half gallons, the same milk producing fifty-four pounds eleven ounces of butter. Her feed was four quarts provender per day. This I consider a good yield of milk and butter for Short-Horns that have been fed and raised upon the Talcott Mountains.

Avon, Ct., Feb. 25, 1862. E. A. PHELPS.

MANURING WITH GREEN CROPS.

I have two pieces of land which I wish to manure by plowing in some kind of green crops next summer; but having never yet tried this plan, I am somewhat at a loss to tell what crop will be best for this purpose; the soil a heavy loam and one of the fields is an orchard.

How would winter rye do if sown early next spring? I have somewhere seen the White Lupin highly recommended for this purpose; would it probably succeed upon heavy soils and where can the seed be obtained?

Vetches or tares are said to be much cultivated on heavy soils in England for soiling. Would they be a valuable crop for plowing in when green? And do they succeed well here? Please to answer through THE CULTIVATOR, and you will greatly oblige one

Middlesex Co., Mass., Feb. 1862. OLD SUBSCRIBER.

Clover is the best green crop for plowing under as manure. The whole plant not only possesses considerable enriching quality, but the roots render an important mechanical service by running deep and rendering the inverted sod loose and mellow, which is of great value on such heavy lands as those our correspondent speaks of. Without the clover, the sod would turn over heavy and compact. We cannot say much in favor of rye—have not seen it tried. Every thing in the shape of green vegetables is useful, but leguminous plants, as clover, peas, &c., most so. The vetch is of this order, but we have no knowledge of its successful culture in this country. Some easily grown, leguminous plant, that would afford a heavy growth for this purpose the same year after sowing, could it be found, would be a great acquisition. In the mean time, we should be glad to see thickly sown cornstalks tried.

[For the Country Gentleman and Cultivator.]

WILLOW HEDGES.

EDS. CO. GENT.—I have received several letters of inquiry about my Basket Willow Hedge, which reminds me of the boy who, when his companions had tickled him out of breath, after standing a short time to recover, says, "do it again." I supposed that I had written all that was necessary to make a good fence from the Osier willow, but if your readers desire to hear more about it, I am willing to "do it again."

First—set in early spring a single row of good fresh and large cuttings—push into well prepared soil, perpendicularly, thirty-three to the rod, leaving about two inches above the surface. If the soil is not rich, it should be well manured. Stretch a line to set by, to have the hedge straight. Keep down all weeds and grass. The willow, if set early on good soil, will make a growth of four feet the first summer.

Cut all off close to the ground the second spring. Hoe once if weeds appear, and you will have a growth, dense and pretty, eight feet high the second fall. Form into a hedge by drawing a line through the center three or four feet high; cut off the rods that touch the line evenly on top by the line; these form living stakes or standards, and should be about three or four inches apart, through which the uncut willow is interlaced according to fancy, finishing up with a sort of rope-like binding on top.

The hedge is now complete, with the exception of covering it with thorns. This is done by cutting off the Osiers slanting, with a pruning knife. Each stub left thus cut makes a good sharp thorn.

My first twenty rods of hedge was cut at three feet from the surface. Wishing to increase its height, I proceeded as follows—cut the Osiers at two inches above the original top binding, leaving one standing at every three inches in a straight line, the whole length of the hedge; then commence with the first Osier, passing it back around the cedar stake at the end of the hedge, bringing it forward and passing it on the right of the first standing Osier, and to the left of the next, and so proceed the length of the Osier, which in mine was an average of about five feet. Bend the next Osier at about six inches above the old line, and work it into line same as the first, and so continue through; each Osier holds the one back of it in place, and the whole forms a nice addition to the hedge, and adds to its strength.

I like it. Why? First, because it bears any amount of freezing without injury, and it is not injured by field mice or rabbits. It looks very pretty, costs but little. One hedge furnishes the material ready for the next. It makes a paying fence. Each rod three years old will furnish material sufficient for four corn baskets of two bushels each, without injury to itself, but be improved by the additional thorns produced by cutting off the osiers. Therefore I like it because its general introduction will be of large benefit to the country, multiplying home comforts, and stopping the importation of foreign Osiers. I like them because I like to see the children happy, and what makes better sport for them than to harness Fido and hitch him before the little willow waggon.

Victory, Cayuga Co., N. Y. D. L. HALSEY.

[For the Country Gentleman and Cultivator.]

TAN-BARK AS A MANURE.

MESSRS. EDITORS—I have observed various statements as to the nature and value of spent tan-bark applied to crops or tillage land. Having made some experiments in a small way, bearing on the question, I will give the results.

On the 1st of July, I sowed broadcast on good alluvial soil well pulverized, carrots, ruta-bagas, and cabbage. I covered them with ¾ inch of tan-bark, quite fresh from the tannery. The growth was good, and crop as large as the length of season would allow.

I also planted potatoes in the same way, covering with 4 to 6 inches of fresh tan-bark. They had no other care, the weeds not growing. The crop was fair, under the circumstances—indicating no bad effect from the tanic acid of the covering.

I also raised good corn where tan was mixed with the soil in the proportion of one in four.

From these facts I have not hesitated to use it freely as an absorbent in my stables. My cows are bedded with it to a depth of 3 or 4 inches. It is hoed back into the drop as fast as it becomes wet. It then becomes thoroughly mixed with the manure, making about double the bulk. It is daily loaded into a cart and hauled to the fields, where it is deposited in heaps.

The great advantages I get are, a more perfect distribution of the manure in spreading—economy in getting *all* the manurial qualities on to the ground—neatness of stables, and saving all the trouble in plowing, drilling in seeds, and cultivating, when coarse straw manure is used, as it must be, or one year lost in rotting it.

Dried muck is undoubtedly best. But I can't get it; and it is much more expensive in procuring and hauling, as a general thing, where tan is within reach.

My land is alluvial, a little inclined to be heavy, and I anticipate good results from the light open nature of the tan.

I procure my supply (about 150 loads) in dry weather, and place in the bottom of a bay, convenient for use. Frost only crusts over the top, giving no trouble.

Elmira, N. Y. "TAPE-LINE."

HERB GARDEN.—The Herb Garden of Mr. W. Holland at Market Deeping, is described in the London Gardner's Chronicle of Oct. 19. From it we learn that about ninety acres are devoted to the cultivation of Peppermint, which requires for five weeks the constant employment of four large stills. Belladonna, Monkshood, Aconitum, Dill, and Poppies, are also largely cultivated.

Domestic Economy and Cookery.

[For the Country Gentleman and Cultivator.]

Sorghum Sugar---Rye Coffee.

Eds. Co. Gentleman—In looking over your recent numbers, I am very much pleased to see that Sorghum is at last asserting its valuable properties as a source of national economy. From imperfect experiments made in this vicinity two or three years since, I have never doubted for a moment the entire practicability and profitableness of its culture, destined at no distant period to supersede, in a great degree, our dependance on more sunny regions for sugars and syrups. It is a subject which most emphatically demands the attention of farmers at this time; more especially, however, in those vast regions of the interior where breadstuffs of all kinds are so low that they will scarcely pay for transportation to market. A large proportion of land now appropriated to the growing of wheat, corn, &c., might be most advantageously devoted to Sorghum, and thus in some degree equalize the the price of articles for home consumption, so that sugars and syrups would be as little expensive in the far west as they are at the seaboard.

My more immediate object in this communication was to say that some of us here, in view of high prices demanded for coffee, have been trying an old substitute, which we think answers a very good purpose—much better than chicory and a dozen other spurious articles palmed upon the public in these days, for coffee. I will give you the mode, and my brother farmers can try it if they choose.

Take clean rye—scald and wash it in water, then dry it in the oven or some other convenient place; brown or parch, and grind it, as is done to coffee. One-third mixed with two-thirds of coffee will scarcely be detected by the most rigid coffee-taster. Some prefer equal parts of rye and coffee. It is worth a trial, and in many cases this modification of the favorite beverage will be preferred, independent of its claims on the score of economy. R. M. Conklin. *Cold Spring, L. I.*

[For the Country Gentleman and Cultivator.]

Leather Varnish for Boots and Shoes.

Many people oil and grease, and grease and oil their boots, with a view to render them impervious to water, until the oil may be pressed out of the leather. Oil alone, or oil and soft grease is poor stuff to exclude water from passing through the pores of the leather, and if the pores be filled with oil, water will drain the oil through on to one's stockings, making cold and uncomfortable feet.

For a few years past I have used a kind of leather varnish for excluding moisture from boots and shoes, which is a very valuable article for preserving leather and for excluding moisture. The way to make it:—

Procure a quart bottle or jug, and put in it a half pound of "gum shellac" or shellac, which may be obtained at the drug store. The shellac should be broken up fine. Now pour in good alcohol enough to cover it, and place it on a shelf in a warm place, and cork the bottle tight, or the alcohol will soon evaporate. Shake it well several times daily. To this add a piece of gum camphor about as large as a hen's egg, and then add about one ounce of good lamp black, and shake it well. If the alcohol is good, the shellac will all be dissolved in about three days, when it will be ready for use.

Let the bottle be well shaken before using any of it. Should it ever appear to be too thick, add more alcohol; and if too thin add shellac.

I grease my boots and shoes lightly, when they appear to need it, and then give them a good coat of varnish. Pour out two or three spoonfuls into a little dish, and with a small paint brush varnish the boots. If it is good, it will dry in six minutes; and will literally *wear* off before it can be removed; and it will form a gloss almost equal to patent leather.

The great excellence of it is, it does not strike *into* the leather, so as to render it hard and brittle, but remains on the *surface*, and excludes the water most effectually.

Besides using this varnish for boots for several years past, with good satisfaction, I have used it for varnishing harness, after they had been oiled, for which purpose I always found it a choice article, as it would keep a harness in good condition for a long period of time, when nothing but oil and lamp black would black every thing that touched it.

The Poulterer's Companion.

[For the Country Gentleman and Cultivator.]

REARING CHICKENS.

In rearing chickens, there are many things to be known. First, but not least, particular attention should be paid to the hen under which the eggs are put. Never set eggs under a wild or scary hen, for her chickens will certainly partake of her character. On the contrary, place eggs under a tame hen, and her chickens will follow her habits; but yet chickens will become very wild if they are allowed to be chased about, and not much care taken of them, even if they are brooded under ever so tame a hen. Hens should be set in some sheltered place, where the other hens cannot disturb them, and where there is not much passing in and out. This secures to the hen that quiet so necessary to incubation.

Should a hen commence sitting in an inconvenient place, remove her to a good one, and fasten her on by placing a coop or some such article over her; keep her there three or four days, feeding her on the nest, and unless she is unusually perverse in her ways she will stay there till she hatches the eggs.

In the nest sprinkle a little tobacco to prevent the vermin from entering.

Never have the nest in a low place, for you are liable to lose both your hen and eggs by the skunks. Put from twelve to sixteen eggs under a hen, according to her size.

Take the chickens as fast as they come out of the shells, and place them in a basket lined with some soft substance, as wool for example, and place them in a warm situation. If the eggs are not all hatched by night, put the chickens under the hen till morning, and then return them to the basket. This is done as a precautionary measure, lest some of the chickens should be killed. When all of the eggs have hatched that will, put the hen and her chickens in a coop. The coop should be large, and so constructed as to admit of a free circulation of air.

I know from experience that it is best to have the coop in some building, where you can shut the chickens in, when it is stormy or the grass is wet. Never feed meal ground fine to chickens; it will do very well for old hens, but for chickens you should take your corn to the mill and have it *just* cracked; give the miller a special injunction to crack it very coarse. Feed the corn dry, place a dish of pure cool water by the side of it, and the chickens will wet it in their crops to suit themselves. For a change of food, feed fresh meat boiled (never feed salt meat,) cooked potatoes, &c.

Don't raise so many chickens as to be overrun with them; for a farm of a few acres, rather raise twenty-five or thirty, and take good care of them, than to raise one hundred and provide for them poorly; for if chickens are worth raising at all, they are worth raising well. Take good care of them if you would have fine fowls. Take care that your chickens do not get lousy, as they sometimes will; if they should, sprinkle ashes on them; they will not thrive in such a condition.

In the fall, say along in Dec., kill off all the roosters but one or two. It is poor economy to keep four or five males over till spring when a less number will do as well.

Always reserve the largest and best formed cocks for breeding as well as the finest pullets. O. S. C.

Kiantone, N. Y.

TRANSPORTATION OF EGGS.

Messrs. Editors—In reply to your correspondent T. F. of Cincinnati, I would state that I have repeatedly hatched hen's eggs received by steamer from England. I have raised Game, Black Spanish, Dorking and Cochin China fowls in this way, but have never succeeded with the eggs of the Sebright Bantam, although I have now more than a dozen of English Pheasants hatched from eggs imported last spring I will be happy to communicate with your correspondent.

Newport, R. I., Feb. 19, 1862. ROBERT L. MAITLAND.

Dogs vs. Sheep.—A Cleveland paper says—There were killed by dogs in Ohio during the year 1861, 42,781 sheep, valued at $64,216.25. During the same period there were injured 19,000, valued at $32,579.70; total, 61,781 sheep, at $96,795.95!

Rural Architecture.

TWO KINDS OF HOMES.

Country homes are of two kinds—the repulsive and the beautiful. The former are occupied by those who know nothing of domestic enjoyment, and who seek happiness in the bar-room and grog-shop. They never see any charms in the works of nature—ornamental shrubbery to them is "brush," and flowers are only "weeds." They never plant a rose-bush nor a shade tree. They sometimes set out a few apple and cherry trees. But these are left to take care of themselves, and what remain after ten years, appear like those shown in figure 1, instead of attaining the perfection shown in figure 2, as they would have done if well managed

Fig. 1.

Fig. 2.

and properly cultivated. They have an especial contempt for all ornamental trees, and exclaim, "What! set out trees that don't bear anything fit to eat—that are only good to look at!" Their dwellings are bleak and desolate. There is nothing about them attractive to their children, who grow up with no attachment to home, and with little appreciation of the social virtues. Figure three is a representation of all that is inviting in the homes of their childhood, and where from the earliest dawn of their forming minds, they have received most of their impressions of life. Few of them have been able to surmount these discouraging influences, and they have become coarse and unintelligent. How different might have been their character if they had been brought up under the influences of the other home represented by figure four.

This neat cottage (fig. 4) cost no more in the first place than the dilapidated one. Its owner kept it in perfect repair, and planted and cultivated the encircling grounds during those spare moments that his neighbor who lives in the other, occupied in the tavern. Each house cost nearly a thousand dollars in building; while the planting and cultivation of the grounds about the latter, did not require an expenditure of fifty dollars.

There is now scarcely an intelligent mind who does not admit for the above reasons, the real and substantial value and utility of ornamental planting. Added to its utility, is the fascinating employment of imitating the most beautiful natural groupings of objects, by planting and arranging trees. With all these inducements, great and increased attention should be given to the subject, and it would open a world of exalted enjoyment to those who pursue it. Most fortunately, it does not require necessarily a profuse expenditure of money. As much skill may be employed in decorating the limited grounds of a cottage, at an expense within fifty dollars, as in laying out and planting a magnificent park of hundreds of acres, costing many ten thousands.

Tucker's Illustrated Annual Register.

Fig. 3—Premises of the Man "who cares nothing for looks," nor for the Comforts of Home.

Fig. 4—Premises of the Man who makes Home attractive to his Children.

A ROOM FOR FARM LABORERS.

For many years we have strongly advocated, (as well as carried out in practice,) the policy of erecting laborers' cottages, and employing hands who would thus board themselves. This would be a great relief to farmers' wives and daughters, and remove one of the most unpleasant and oppressive parts of farming. But where this is not, cannot, or will not be adopted, then a laborers' room should be provided, where they can spend their evenings, and other vacant time. Gen. Sulton, of Salem, Mass., stated at one of the legislative meetings, at Boston, that he had, besides his barns, stables, &c., a building as a shed for carts and coarser tools, with another room for smaller implements, a carpenter's shop for home repairs, and *a room for farm laborers.* "The latter," he remarks, "is regarded as one of the most useful apartments on the premises. It is well finished, and provided with a stove and seats. Here the agricultural papers are kept, and the men spend the evenings in reading them."

Such a room would also answer for an *Office*, (if there is no other) to be used for settling with the men, making bargains, and other matters with which the inmates of the dwelling should not be troubled.

VERMONT.—At a meeting of the Directors of the Vermont State Agricultural Society held at Bellows Falls, Feb. 12th, the Hon. H. Henry Baxter having declined the office of President, on motion of the Hon. J. W. Colburn, the Hon. Edwin Hammond, of Middlebury, was unanimously elected President for the ensuing year. A series of Resolutions were adopted, that a CONVENTION OF WOOL GROWERS should be called, to be held under the auspices of the Vermont State Agricultural Society at Rutland, Sept. 9th—the first day of the State Fair.

[For the Country Gentleman and Cultivator.]

ON GRAFTING GRAPES.

Having seen numerous inquiries on this subject, some of them in the COUNTRY GENTLEMAN I think, I am induced to give my experience on the subject.

1. REASONS FOR GRAFTING THE GRAPE.—*a.* You are thus able speedily to change a large and thrifty vine whose fruit is poor, into one whose fruit is valuable. A vine of moderate size in a favorable year, will sometimes show flowers the year it is grafted. You may always expect a moderate crop of fruit the second year, and a heavy one the third year.

b. Occasionally too, in some varieties of grapes, the organs of fructification are imperfect from the excess of stamens; hence the vine is a shy bearer. Here the advantage of grafting, with a free and perfect flowering variety, is apparent.

c. There is no perceptible gain to hardiness, in grafting a tender variety on a hardy stock; such in my experience have been just as liable to mildew, in hot, damp weather, as when grown on their own roots. The scions I have mostly used were the early Black July, Miller's Burgundy, Violet, and Golden Chasselas.

2. TIME OF GRAFTING.—*a.* Very early in the spring, as soon as the frost is out of the ground, which is here from the 1st to the 10th of April usually, at least in protected positions, where the grape is usually planted. Grafted at this time, the grape does not bleed when finally the sap starts.

b. In the early summer, when the vine has made considerable growth, and the larger leaves have attained a full expansion. This period here is usually from the 25th to the 30th of June. At this time the sap begins to thicken and granulates readily. Even now, if on trial the stocks are found to bleed much, the operation should be deferred a few days. There is but little difference in the success of grafting at these two periods. There are however, two very obvious advantages in early grafting. The first arises from the difficulty of preserving your grafts from sprouting and blackening until the later period. The second is the superior ripeness of the young wood, and its consequent ability to meet the winter, especially where early autumn frosts occur.

3. STOCKS USED.—From about 1845 to 1852, I grafted perhaps 150 stocks. They comprehended two or three native sorts, said to have been brought originally from Connecticut, two or three native sorts of unknown origin, and many Isabellas and Catawbas.

4. MODE OF GRAFTING THE GRAPE.—*a.* Saw off the stock two or three inches below the ordinary surface of the soil, cutting it a little higher or lower, if you can thereby get a clean split for your scion. The vine will sometimes exhibit a collar just below the surface, which will not give a good split; I prefer to go below this, even at the expense of cutting off some of the side-roots.

b. Pare off the stock smoothly with a sharp knife.

c. Split it two or three inches as in ordinary cleft grafting, and open it with a wedge if the stock is very large.

d. Let your graft be two buds long, leaving one inch of wood at least, above, and two or three below to constitute the wedge.

e. With a very sharp knife, bring your graft to a wedge shape, as in the case of ordinary cleft grafting, having the lower bud on the outside of the stock.

f. Insert your graft so that bark meets bark, as in other similar cases.

g. If your stock is large, and your grafts numerous and perhaps poor, set a graft in each side.

h. If your vine is small, tie the graft in, being careful to use strings that will decay readily, so that you need not subsequently have to loosen them. A narrow strip of cotton cloth is good.

i. I sometimes have clayed or waxed the graft, and often not. The earth falling into the cleft seems harmless, as that part of the stock immediately in contact with the graft is alone important.

j. Bring the earth back around the graft, leaving the lower bud just covered. It will readily press through the soil if it starts well.

k. I like to put a drop of the shellac varnish on the top of the graft, to prevent its drying up.

l. Stick down a shingle or half a barrel stave just south of the graft, so as to shield it for a few weeks from the noon-day sun, until it is well established.

m. If both buds start vigorously, break off the upper one, as one vine at the base is better than two.

n. Carefully pull up the sprouts which almost always spring up from below the graft.

o. Should your graft not start, or seem likely to die, let one sprout grow from the bottom, to become a future stock.

p. The first time you trim, cut back your vine severely if it be feeble, or the stock were small. Otherwise leave plenty of wood for a crop the second year.

q. Cultivate around your graft as you do in the case of any other grape.

5. DEGREE OF SUCCESS.—*a.* I am not an experienced grafter, having never set grafts of any kind before grafting the grape. Yet I now think, without recurring to my notes, that I have usually made from one-half to two-thirds of all my grafts live.

b. Much depends on timing things right, and in having sound, well ripened wood for grafts. C. E. GOODRICH.

Utica, March 17 1862.

[For the Country Gentleman and Cultivator.]

FRUIT CULTURE IN SOUTH ILLINOIS.

EDS. CO. GENT.—According to present indications we shall have a full fruit crop in "Egypt" the coming season. The peach buds are in good condition, as we have had no "warm spells" of sufficient duration to swell them since December. The weather during January and February was moderately cold, the mercury falling below the zero mark but three times during the two months, and then but a few hours; the mean temperature being about 40°. The peach is sometimes seen in bloom here by the 10th March, but they will be considerably later this year as the buds have not yet commenced swelling.

The mania for planting large orchards of apple, pear and peach, is becoming quite prevalent, all along the Illinois Central Railroad from Cairo to Centralia. The great success of our leading peach growers last season, has given a new impetus to the business.

One man at Cobden Station, Union Co., made $3,000 from his young peach orchard of 1,600 trees—the entire crop was sold in Chicago, at from $1.00 to $2.50 per box (¼ bushel.)

Two men at Makanda Station, from their peach orchard of 4,000 trees, shipped 12,000 half bushel boxes, which netted them over $12,000. This was the first crop from this orchard, but it shows what can be done in "Egypt." There has not been an entire failure of the peach crop here during the last 20 years, and there are seedling trees here 30 years old, still bearing bountiful crops. The winter of 1855–6, which killed to the ground nearly all the peaches in Northern Illinois, did no damage here, farther than killing a portion of the buds.

The most elevated lands for peach and pear—the apple will do well in almost any situation not too wet. Young fruit trees grow about one-fourth more here during the

season than in New-York with same culture. For enterprising men who have a fondness for Pomology, there is plenty of room here to plant orchards, and a fair prospect of success financially, as the large towns in the Northwest are an immense market; and the demand will no doubt keep pace with the supply.

The culture of cotton here the coming season, is being talked of a good deal, and as it has been grown here for years with very fair success, its increased culture will not be an experiment. The original settlers from Tennessee and the Carolinas generally have their little "cotton patches" for domestic use, but this year the Yankees who have settled here will give it considerable attention. Sorghum will also come in for a good share of attention—our long hot summers seem to suit it well.

Our winter wheat looks well. The farmers have a large portion of last year's crop still on hand. Present price 65 cents per bushel; before the war from $1.00 to $1.50. The best market for our wheat and flour has been down south. A. BABCOCK.

Union Co., Ill,, March 8, 1862.

[For the Country Gentleman and Cultivator.]

PRUNING GRAPEVINES.

MESSRS. EDITORS—Permit me to inquire what is the proper time to prune the vine? I am aware that most writers recommend January and February. It was my practice until about six years since to follow their advice; but in the latitude of New-York city, in which I reside, I must beg leave to differ from them—first, because we are subject to sudden cold snaps, as we call them—the young wood being exposed, suffers, and a large portion of the vine dies, and a short crop of fruit follows. Being satisfied of this *fact*, I prune my vines the last of *March*. By so doing I not only save my vines, but am rewarded by an abundant supply of that delicious fruit, which was not the case before. Some object to it because the vines lose too much sap, but as yet I have seen no injurious effects from it. Will some of your numerous correspondents give us their experience and oblige

Huntington, March 18, 1862. AN INQUIRER.

[For the Country Gentleman and Cultivator.]

THE PEACH BORER.

This is one of the greatest troubles the peach orchardist has to contend with, and often proves very destructive. Various methods for disposing of them are employed; none so effectual as the prompt and thorough use of the knife.

The application of cloth recommended in COUNTRY GENTLEMAN, Dec. 26th, for protection from rabbits, slightly modified will serve as a preventive. In this case as surely as any other, "an ounce of prevention is worth a pound of cure." In early spring remove the soil from about the collar, examine and remove any borers that may be there, commencing as low down as the roots will admit; wind narrow strips of cotton or other cloth closely around the bodies a foot above the ground, tie and return the soil to its place. The cloth may be removed after midsummer to be again applied the following spring.

Columbus, Ohio. A. G. HANFORD.

[For the Country Gentleman and Cultivator.]

Marblehead Mammoth Drumhead Cabbage.

MESSRS. EDITORS—Last spring I received of Mr. J. J. H. GREGORY, a twenty-five cent package of the above cabbage seed, half of which, after dividing with a neighbor, was sown in a seed bed as soon as the ground would do to work. The plants were put out in the garden in June, and produced over a hundred of the largest and handsomest cabbages I have ever seen. They were also called so by all that saw them. Every plant headed, and the heads were all large and solid—I think at least double the size and weight of the common flat Dutch or Drumhead with the same cultivation. And they were not only large, but were white, sweet and tender, with a very small core for such large heads. We only found one difficulty with them, which was that some got ripe and rotted, and a few bursted before it was time to gather them for winter, but this may have been owing to a warm growing fall.

Orleans Co., N. Y. F.

[For the Cultivator and Country Gentleman.]

CULTURE OF THE STRAWBERRY.

Having made a very satisfactory experiment in the culture of the strawberry, I am disposed to communicate it to your readers, though it may not prove as new to them as it was to me.

I have a circular flower garden enclosed by a wire net fence, and containing a little less than the eighth of an acre, on the south side of our dwelling-house. Next to the fence I have a border laid off about two and a half feet wide, for flowering shrubs, tall annuals, &c.; between this border and the flower beds a walk three feet wide. Early in April, 1858, I set strawberry plants for an edging to the border, about six inches apart, more from the want of a sufficient supply of bordering plants, than from the expectation of fruit from them. To my surprise, they produced abundantly the first year, and have yielded more and more profusely ever since. I keep it closely trimmed of course, and the border is closely set and neat, giving me less trouble in keeping out grass and weeds, than any other bordering plant. In 1860 I allowed some suckers to stray through the wire net and root in the grass outside, separating them as soon as rooted, from the plants inside. Last year these outside plants bore surprising quantities, and being shaded by the grass the fruit matured just as that upon the inside began to fail. The plants were sent to me by one of our best fruit culturists, without a name, but I should judge the variety must be the Albany Seedling. Fruit very large, abundant, and of pale red hue—more tart than the meadow strawberry, but resembles it in the form and flavor. As I am my own flower gardener, (what farmers' wife in New-England is not, especially when there is swamp land enongh at hand to employ all the men who can be *paid* in reclaiming and subduing it?) I feel quite delighted with the result of my experiment. DORCAS. *Swanton, Vt.*

Raising Pear Trees---Time for Pruning.

RAISING PEAR TREES.—Will you please answer through your paper, the mode of planting pear seed, and how long it will take before the trees from said seed will bear? W. ROGERS. [Pear seed are to be treated precisely as those of the apple, in raising the seedlings—and when large enough or the next spring, set them out in nursery rows, and bud them when the bark peels freely. Cultivate, train, and transplant the same as apples, and in one or two to ten years, they will bear. If not well cared for, or neglected, they will probably die, or may bear in fifty years—if well managed, such early bearers as the Bartlett will give fine fruit in two or three years, while the Tyson and Dix may require six or eight.]

TIME FOT PRUNING.—Can you inform me the best time to prune young fruit trees? I have some that were set out last fall. By informing me through THE CULTIVATOR you will greatly oblige A SUBSCRIBER. *Birmingham, Mich.* [Light pruning, which removes but a small portion of the foliage, may be done early in snmmer; but all severe or heavy pruning should be done in winter, or before the buds swell in spring; and if the wounds are large, (which are never necessary unless the trees have been previously neglected, and become mis-shapen,) they should be covered with grafting wax, paint, tar and whiting, shellac in alcohol, or other suitable application, the shellac being best.]

RAISING APPLE TREES.

Will you please give advice to one who wishes to start the nursery business on a small scale; and is quite ignorant on the subject.

Shall I buy the apple stocks grafted the present season, or those one year old from the graft? Which will bear transplanting the best? How far distant the rows? Do the grafts do best set on a slight ridge or level? Is compost directly at the roots at time of setting, practicable, and any other information in the premises will be gratefully received by P. *Salisbury, Ct.*

At current prices, it is best to buy the root grafts, and set them out. But if the one year trees can be had nearly as cheap, it would be best to procure these. The root grafts may be had for $6 to $8 per 1000; if the yearling grafted trees can be had for $10 or $12, they would be the cheapest. The usual price is about $20 or $25. They would all live, while a portion (say 10 or 20 per cent.) of the root grafts do not grow; and the yearlings would be rather the largest at the end of the season. The root grafts must be set on fine, level, mellow ground, nearly to the tip, or with half an inch above ground, and the soil must be packed well about the roots. The rows should be 4 ft. apart. Thoroughly decomposed compost, mixed well with the soil, is useful. Our correspondent better procure Barry's *Fruit Garden*, Thomas' *Am. Fruit Culturist*, and other books on the subject, if he wishes to understand how to manage trees.

[For the Country Gentleman and Cultivator.]

NOTES ON GRAPES.

L. Tucker & Son—I like the proposition of your correspondent Miner, "to agitate the grape question—good will come of it." So here is my mite. Location north part of Cayuga county, N. Y. Isabella ripened twice perfectly in twenty-two years; Catawba once in same time. Vines killed to the ground at 15 deg. below zero. *Concord* ripe two weeks before the Isabella. Good, and ripens even. Vines stand our winters without protection. Rebecca very good, but not so hardy as Concord. If covered it ripens a few days ahead of the Concord. Diana bears well, is a good grape, and ripens here after Concord and Rebecca, and rather unevenly. My Delawares have not fruited. D. L. Halsey.

[For the Country Gentleman and Cultivator.]

Winter Management of Dwarf Pears.

In your issue of Jan 9, your suggestions on the winter management of dwarf pear trees, are in accordance with my practice for the last five years, and as you ask cultivators to state their experience, I cheerfully add my mite.

The whole surface of the ground in my fruit-garden, is covered about three inches deep with salt hay during the summer. Just before winter sets in, I remove the hay from the trees, and throw up a mound, some ten or twelve inches high, around the body of the trees, and then replace the hay. I also add some two inches of coarse strawy manure.

In the spring, after the weather becomes warm, the covering is removed, the mound of earth levelled down, and the fine part of the manure, with a little superphosphate of lime, added, and lightly forked in around the trees; the strawy manure and hay replaced, and it is right for another season.

The covering of the entire surface of the ground during our hot, dry summers, answers a two-fold purpose—first, it keeps the ground moist; and secondly, it saves a great amount of labor in keeping the ground *clean*—a very important consideration in the successful cultivation of the dwarf pear.

The result is, I have not lost a tree in the time, or a crop of fruit with the exception of two varieties, the *Bartlett* and *Glout Morceau*, the past season; and they were well set with fruit buds, but *the buds* were all destroyed by the previous severe winter.

Amesbury, Mass. WLILIS P. SARGENT.

[For the Country Gentleman and Cultivator.]

A Flower Garden for the Children.

The season of flowers, bright and beautiful, will soon be with us. Nothing can be more elevating and enobling to the thoughts and character of man, than the cultivation of these "waifs of paradise." This is so especially in regard to children, and no one that gives his children a plot of land for a flower garden, will ever have cause to regret it. The expense for seeds is but a trifle compared with the benefit and pleasure that will accrue; while the influence on the minds of the young, in creating a love for the beautiful, and forming habits of industry, cannot be estimated in dollars and cents.

Hoping that many of the youthful readers of the Co. Gent. will make a beginning the coming spring, I will give them a few hints which may be of help to them.

In the first place select a warm piece of land and work it thoroughly so as to reduce it to as fine a tilth as possible, making it rich with rotten manure containing as few foul seeds as possible. The seeds should not be sown till the ground is warm and dry, as the plants will be more vigorous when not stunted in their early stages of growth.

Flowers may be divided into three classes:—Annual, Biennial and Perennial.

The seeds of the first have to be sown every spring, as they grow, blossom and die each year. They are very desirable in a garden, as being of rapid growth, and produce flowers of every hue and fragrance.

Biennials require two seasons to perfect their growth, blooming and dying the second season, while perennials live for many years, or until they die of old age or hard usage.

There is yet sufficient time to make out and procure lists of seeds of each variety, advertised in this paper by friend Norris, or they can be obtained at most seed stores, and when the spring opens, be prepared to make a garden which will please the eye of the passer-by as well as be a source of pleasure to yourself and friends.

ST. LAWRENCE.

[For theCountry Gentleman and Cultivator.]

To Protect Cucumbers, Melons, &c. from Bugs.

After planting, cover them with pieces of glazed cotton wadding, split, so that one piece answers for two hills, placed with the glazed side up, and pinned to the earth with slender smooth pins of wood slanting outwards, to prevent their blowing away.

The plants are thus protected in some degree from excessive cold or heat. It need not be removed. The plants will push through it or carry it away when they begin to spread themselves, and the bugs do not know enough to crawl under it. Perhaps they are repelled by the fibres of the cotton. Chas. W. Badger.

Newark, N. J.

Mice, Rabbits, and Horse-Shoe Tiles.—A neighbor excludes mice from his young trees, by placing two horse-shoe tiles, so as to encase the stem, and then passing a slender annealed wire around, and giving it a twist. This is about as easy a way as the old and effectual remedy of a small smooth mound of earth around each tree, and may be applied after the ground is frozen. It would be hard for the rabbit to gnaw through the tile—if not high enough, a second pair of tile might be placed above, if the tree were stiff. What effect this remedy would have in excluding the borer, may be worthy of a few experiments.

[For the Country Gentleman and Cultivator.]

ECONOMICAL HORSE-FEEDING.

Messrs. Editors—Having a desire to ascertain the manner in which feeding was managed in some of the largest stables in this country, I determined to improve a few leisure hours in examining the system of horse-feeding practiced in the Omnibus and Railroad Stables of New-York. The following are a few of the items gleaned from visiting the stables of the Fourth, Fifth, and Madison avenue omnibus lines, and the Third, Fourth, Sixth, and Eighth avenue railroad lines. These are among the largest and most enterprising corporations of the kind, and a high degree of intelligence is brought to bear upon their management.

In all these stables, cut hay and ground feed, mixed wet, are used exclusively, the experience of many years having convinced the managers that long hay and whole grain are not economical. The two prominent reasons for this belief are, 1st, that a horse requires less of cut and ground feed, and 2d, that less is wasted, both by man in distributing, and by beast in consuming. But facts and figures are the best support of theories, and to these I would refer. In all the railroad and in most of the omnibus stables, the grain consists of corn and oats, in the proportion, by measure, of three of the former to two of the latter; the proportion, however, varying with the relative market value of the two kinds of grain. Let us look first at the

Third Avenue Railroad Stables,

Where are now kept 880 horses, whose average weight is about 1,100 lbs. These horses travel daily 18 miles, while their road, running as it does from the City Hall to Harlem, has the heaviest and longest grades of all in the city. Mr. Meriam, foreman of these stables, stated that although they kept no accurate account of the feed consumed each week, still the whole amount for the year was known, and that from experiments at various times, he believed the average amount consumed by each horse daily to be, of grain 17 lbs., of hay 9 lbs. This company, owing to a recent fire, are laboring under the disadvantage of not being able to grind their own grain. Their new stables, the largest in this country, deserve at least a passing notice. They are of iron, and are 200 feet in width by 600 in length, occupying the whole block bounded by 65th and 66th streets and 2d and 3d avenues. The stalls are 1,200 in number, and four feet in the clear, with iron mangers. Turning next to the

Eighth Avenue Railroad Stables,

We find 600 horses, averaging in weight about 1150 lbs. travelling 20 miles per day. From Mr. Wilson, Asst. Superintendent of the road, I learned that their means of ascertaining the amount of food required daily for each horse were much the same as with the 3d Avenue Road, depending upon yearly results, together with occasional experiments. His estimate for each animal per day, was as follows:—Grain 18 lbs., hay 10 lbs. Without stopping at present to notice any of the conveniences of this company for preparing their feed, we will pass at once to the—

Sixth Avenue Railroad Stables,

Bearing in mind our present special object, of ascertaining how much nutritious food, suitably prepared, is necessary for the support of a hard working horse. And here the observer, whatever may have been his impressions in reference to the good management of the other establishments which we have noticed, is particularly struck with the order and system which, in these stables, are brought to bear for the comfort of the horses and the interest of the owner.

Mr. William Ebbitt, the Superintendent of the Road, attends not only to the duties which devolve upon him in common with other Superintendents, but also exercises a special and personal supervision over the domestic economy—if I may use the expression—of the stables. During the past 10 years he has devoted especial attention to the matter of feeding horses, and, after very many careful and oft repeated experiments, he has at last reduced the subject to a science. As interesting as a recital of these investigations might be, their *results* are what we are at present seeking to gather.

The number of horses fed is 530; their average weight 1,000 lbs.; travelling daily 20 miles. In a book kept especially for that purpose, is recorded once a week the exact amount, in pounds, of hay, corn and oats consumed during the previous week. This record extends back several years, and from it Mr. Ebbitt kindly consented to allow me to make whatever extracts I chose. I accordingly copied the following, commencing with the week ending Dec. 11th, 1859, and making extracts at regular intervals up to Sept. 14th, 1861.

Dec. 4-11, 1859.		Jan. 12-19, 1860.		March 10-17, 1860.	
Hay,	24,069 lbs.	Hay,	20,323 lbs.	Hay,	24,328 lbs.
Corn,	390 "	Corn,	876 "	Corn,	702 "
Oats,	900 "	Oats,	402 "	Oats,	702 "
June 2-9, 1860.		**Sept. 1-8, 1860.**		**Dec. 1-8, 1860.**	
Hay,	27,343 lbs.	Hay,	24,838 lbs.	Hay,	28,420 lbs.
Corn,	870 "	Corn,	740 "	Corn,	865 "
Oats,	390 "	Oats,	460 "	Oats,	400 "

March 2-9, 1861.		June 1-8, 1861.		July 6-13, 1861.		Sept. 7-14, 1861.	
Hay,	23,488 lbs.	Hay,	23,584 lbs.	Hay,	20,675 lbs.	Hay,	21,473 lbs.
Corn,	876 "	Corn,	812 "	Corn,	600 "	Corn,	752 "
Oats,	402 "	Oats,	546 "	Oats,	325 "	Oats,	506 "

Carefully averaging the various amounts, we have the following interesting results:

Average am't of Hay consumed, per head, daily		6 43-100 lbs.
" " Corn " " "	11 30-100 lbs.	
" " Oats " " "	4 34-100 "	
		15 64-100 "
Total,		22 7-100 "

And reducing this to dry measure, (calling corn 56 lbs. and oats 32 lbs. per bushel,) we have,

Average amount of Corn consumed, per head, daily,		6 45-100 quarts.
" " Oats " " "		4 34-100 "
		10 79-100 "

Or, feeding all oats, we should have as many quarts as there are pounds of grain, viz., 15 64-100 quarts.

To recapitulate, we have,

Third Ave. road, with 1,100 lb. horses, consuming of	Hay,	9 lbs.
	Grain,	17 "
Total,		26 "
Eighth Ave. road, with 1,150 lb. horses, consuming of	Hay,	10 lbs.
	Grain,	18 "
Total,		28 "
Sixth Ave. road, with 1,000 lb. horses, consuming of	Hay,	6 43-100 lbs.
	Grain,	15 64-100 "
Total,		22 7-100 "

For the discrepancy between the last result and the other two, there are I think, at least four reasons: 1st. The difference in the average weight of the horses; 2d. In the Sixth Avenue road we have *figures* to deal with, while in the other cases we have to depend somewhat upon *estimates;* 3d. Kind and careful treatment, under the immediate and personal supervision of a responsible and interested individual; 4th. The grain for the Sixth Avenue road is ground very coarse—but little more than cracked. This the Superintendent considers easier of digestion for the horses, being less heavy than clear meal, and acting much as coarse bread upon man. In mixing, moreover, with the cut hay, it requires less water than fine meal, and consequently the whole mass is less liable to ferment in warm weather, besides obviating the danger of scouring the horses. Let me here remark that there is no perceptible difference in the condition of the horses upon these three roads; all are in good flesh.

The Eighth Avenue road do all their own cutting and grinding with a 15-horse power steam engine, working

COMPARATIVE WEIGHT OF WOOL AND CARCASS.

SWEET BROTHERS' flock of 180 Sheep of several grades, half to three-quarter Spanish Merinos—a portion of the largest, quarter French Merino. The base of the flock but a few years since was Saxony. Sheared on the 26th and 27th of June, 1861. Every sheep and fleece was weighed separately, and recorded on the spot.

TABLE—*Classified by age, except 4-years old, which are subdivided by sex. The 4-year old Ewes all had Lambs, and thirty-five of them raised their Lambs.*

NUMBER IN CLASS.	Age--years.	SEXES. Ewes.	Weth'rs	Bucks	Gross weight.	Weight of carcasses.	Weight of wool.	Average weight of carcass.	Ave. weight of fleece.	Pounds of carcass to 1 of wool.	Per cent. of wool to gross wt.
32	1	19	11	2	2,160.25	1,991	169.25	62.21	5.28	11.11	7.83
30	2	15	14	1	2,508.37	2,347	161.37	78.23	5.37	13.98	6.43
51	3	9	42	..	5,013.25	4,700	313.25	92.15	6.14	14.10	6.24
26	4	..	25	1	2.921.13	2,736	185.13	105 11	7.12	14.76	6.33
41	4	41	..	..	3,738.	3,557	181.	86.75	4.41	19.65	4.84 } 5.58
Total,. 180	1 to 4	84	92	4	16,341.	15,331	1,010.	85.17	5.38	15.17	6.18

TABLE—*Classified by Weight, in divisions of ten pounds each.*

NUMBER IN CLASS.	Weight of divisions.	SEXES. Ewes.	Weth'rs	Bucks	Gross weight.	Weight of carcasses.	Weight of wool.	Average weight of carcasses.	Ave. weight of fleece.	Pounds of carcass to 1 of wool.	Per cent. of wool.
5	42 to 51	5	..	..	256	234	22	46.80	4.40	10.63	8.59
14	50 to 61	10	4	..	871	803	68	57.35	4.85	11.80	7.80
20	60 to 71	14	6	..	1,427	1,320	107	66.	5.35	12.33	7.49
34	70 to 81	21	12	1	2,742	2,567	175	75.50	5.14	14.66	6.38
39	80 to 91	19	20	..	3,566	3,355	211	86.	5.41	15 87	5.90
34	90 to 101	11	22	1	3.453	3,252	201	95.64	5.91	15.42	5.82
18	100 to 111	4	13	1	2,016	1,905	111	105.83	6.16	17.16	5.60
11	111 to 121	..	10	1	1,353	1,273	80	115.72	7.27	15.91	5.89
5	120 to 134	..	5	..	657	622	35	124.40	7.00	17.76	5.32
Total,. 180		84	92	4	16,341	15,331	1,010	85.17	5.38	15.17	6.18

four mills and two hay-cutters, and running only two days each week. Original outlay for engine, boiler, &c., $3,000, to which add fuel, and wages of engineer at $50 per month, besides occasional slight repairs, and you have the whole expense of motive power.

The Sixth Avenue road work one mill and one hay-cutter with a 4-horse circular power, running most of the time. The capacity of the mill (Prentiss & Page's) when Mr. Ebbitt commenced using it, was eight bushels per hour, with 300 revolutions per minute. By increasing the number of leading and "straw furrows" in the stone, thus getting greater cutting surface, and by grinding coarser, he now, with 160 revolutions per minute, grinds 30 bush. per hour. By enlarging the spout and boring auger-holes in the corners of the box, thus cooling the whole mill and allowing the meal to come out almost entirely free from warmth, he avoids "shrinkage."

The capacity of the hay-cutter (Daniel's) is about 12 cwt. per hour. The same cutter is used in the other six establishments which I visited, and is generally worked by a one-horse railway-power. In the Third Avenue road, however, in addition to this machine, they are trying one of Hickok's Hay and Cornstalk Masticators. The average life of an omnibus horse is about three and a half years; of a car horse about four years. H. W. C.

White Plains, Westchester Co., N. Y., Feb., 1862.

CURE FOR BLOODY MURRAIN.

One teaspoonful of saltpetre, one tablespoonful of salt, one tablespoonful of sulphur—well pulverised and mixed together. One dose has never failed to cure my cattle if taken in time. FRANCIS PERRY.

☞ The big SANDERSON OX, several times noticed in our columns, recently sold to Bryan Lawrence of New-York, has been slaughtered and weighed in that city. "The live weight a day before he was slaughtered, was 3,300 pounds. The dressed animal weighed 2,473 pounds, or 154 pounds more than the celebrated ox "Union," and exceeded any ox ever slaughtered in this or any other country."

[For the Country Gentleman and Cultivator.]

Comparative Weight of Wool and Carcass.

EDS. COUNTRY GENTLEMAN—I send you herewith two tables, giving the weight of carcasses and wool of a flock of sheep owned by the SWEET BROTHERS of the town of Pompey. (See tables above.)

At my request Messrs. Sweet took the trouble to weigh each sheep and the wool it bore, and to classify and arrange the whole matter in the tables. I have long thought that as it was the surface of the sheep we wool-growers derived our income from, it was a mistake to try to raise large sheep for the production of wool.

The principle involved I think is this: The yield of wool is in proportion to the surface sheared, while the sheep consumes food in proportion to the weight of the animal. This, I think, is the general rule—not true of every individual sheep, but true when applied to flocks. We know that two sheep weighing 150 pounds, have more surface to bear wool, than one sheep that weighs 150; and if a man has a flock of 100 sheep that weighs 10,000 pounds, and another man has a flock of 133 sheep that weighs 10,000, the food required will be the same, (according to the German experiments,) while the wool of the 133 sheep will be 638 pounds, and the wool of the 100 sheep will be only 570, as deduced from the tables of Messrs. Sweet.

I have sent a copy of these tables to Hon. HENRY S. RANDALL, and I presume they will appear in his essay on fine-wooled sheep in the next volume of the Transactions—but I desire to bring them before the public through your paper at once, to induce, if possible, at least some flock-owners to take the trouble to weigh each sheep and its produce at the next shearing, that the tables may be so multiplied that we may deduce the truth.

If the food that sheep consume could be weighed here, as it has been many times in Germany, the whole truth might be arrived at. GEO. GEDDES.

Fairmount, N. Y., Feb. 26, 1862.

[For the Country Gentleman and Cultivator.]

HOW TO RAISE CALVES.

Some think a good calf cannot be raised unless allowed to draw the milk itself from the cow. But my mode of treatment is to let the calf remain with the cow until about four days old; then to put him by himself, and teach him how to drink, commencing with skimmed milk twelve hours from the cow. As the calf grows older, the milk is allowed to stand longer. They will soon get so as to take it readily at any age up to as long as you wish to let it stand, and will grow finely if properly attended to. We warm the milk until the weather gets warm, and then give it cold. They should be tied up, and each calf fed by himself, as some will drink much faster than others. Give a little fine hay daily as soon as they will eat, and keep them up from grass until two months old, when they can be let out into a small lot, and allowed to feed themselves from grass if desired. I think I can make nearly as good calves in this way as by letting them go with the cows, and I am sure it is much cheaper, as I never allow the calf to interfere with the amount of butter after he is one month old. Last season we fed a little oil-cake meal with the milk, and think it very good as it prevents them from scouring.

I will give you the weight of one calf raised last season to show you how they can be made to grow on this treatment. She was a heifer calf, fed nothing but skimmed milk, buttermilk and hay, until cold weather late in the fall, when the cows began to dry up; we then commenced feeding a little corn meal ground in the ear, beginning with a small handful a day and increasing a little daily until the last month; during January fed her four quarts daily, and had her slaughtered first of February at about eleven months old. Her dressed weight, four qrs. hide and tallow, after hanging 24 hours, was 501 lbs.; tallow rough 25 lbs.

We have a shed with stanchions where the calves are fastened and fed in pails by themselves; they will very soon learn to take their places at feeding time. Care should be taken when calves are young not to feed too much. You ask what roots I have raised and what ones I consider best adapted to the wants of milking cows. I think carrots and sugar beets the best adapted to their wants, but I have never experimented with either sufficiently to give a detailed statement of their relative merits. I have a very favorable opinion of the sugar beet from what I have used of them.

Chenango Co., Feb. 9, 1862. JOHN SHATTUCK.

[For the Country Gentleman and Cultivator.]

WORMS IN THE WIND-PIPE OF SHEEP.

Editors of the Co. Gent.—In November I noticed some of my sheep had a cough, but did not consider it anything more than a cold, which would soon wear off.

Gave them plenty of tar and salt; still the cough hung to them; at times it was very violent and some of the lambs were troubled in the same way, and all that were attacked lost flesh, although fed all they wanted to eat and drink, with good shelter and care. Three sheep that were the worst, I separated from the rest, and gave them an extra quantity of grain, thinking to fatten and kill them, but they grew poorer in spite of all my care and attention. Yesterday morning I found one of them dead; took her hide off and opened the wind-pipe with my knife from gullet to brisket, and found my suspicions as to the cause were correct, viz: worms in the wind-pipe; the largest one I found was about the size of a cambric needle, nearly 3 inches in length, and perfectly white. Others could be seen by close watching, working about in the phlegm (of which there was considerable,) which were not more than 1-16th of an inch in length, and so small they were scarcely discernible. Doubtless I should have found more in the lungs had I examined there, but I had not the necessary instruments with me at the time. The worms were working in every direction, which I presume caused tickling in the throat and produced the cough.

"There is no great loss without some small gain," for I have a good pelt and know the nature of the disease. Now if any of our sheep raisers can give us a remedy, let it be published in the Co. Gent., and I shall consider myself the gainer, and it may be a benefit to some others.

"Brace Farm," Oswego, N. Y. J. P.

[For the Country Gentleman and Cultivator.]

WINTERING PIGS ON HAY.

Messrs. Editors—It may not be generally known that pigs during the winter will not only eat clover hay that has been cured in good condition, but will actually thrive upon it.

I have seen a lot of 25 shoats (Sept. pigs,) the present winter, which have been fed on clover hay alone, and they are in good flesh; in fact they are actually in better condition than the average of pigs wintered without good warm shelter, and fed upon grain.

The clover fed these pigs was cut on the 4th day of July, and secured without a drop of rain upon it, and of course is very nutritious; the pigs in addition, are supplied with warm, comfortable quarters, and have at all times access to warm spring water.

I once had a neighbor who owned a noted sow, to which he never fed a mouthful of grain during the winter, but kept her in the yard with his cattle, and she ate with them the hay, and throve upon it.

Now, I do not advocate this method of wintering swine; I simply give the facts—others can try it for themselves. K. *Wilson, N. Y., Feb.* 1862.

[For the Country Gentleman and Cultivator.]

CHAFFED CORNSTALKS AND HAY.

There seems to be a great difference of opinion among practical farmers as to the economy of chaffing hay and stalks for horses and cattle; yet repeated experiments of late in England and Scotland, have proved that nineteen pounds of chaffed hay will take the place of twenty-five pounds in the long state. That this theory is true, is shown by the practice of all the large omnibus and rail-road-stable proprietors in the city of New-York, as well as in most of the livery stables in New-England. In New-York the average weight of finely cut hay fed daily to each horse is only about nine pounds, the same being treated wet, with about seventeen pounds of ground corn and oats, the proportion being two of corn to one of oats, when oats are dear and corn is cheap.

If it is thus a saving of more than one-fourth the hay when fed in the cut state, there must be a much greater saving in finely cut stalks, the butts of which are otherwise inedible. It is true that the stalks contain much less nitrogenous matter than well cured hay, yet if cut as soon as the corn is glazed, and well stooked, they contain much sugar, and the extra carbon is as good to form animal warmth and respiration as that of the mos tnutritious hay; and when finely cut and treated with meal, they are as greedily eaten by both horses and bovines. Then the manure made from finely cut stalks, is mechanically well fitted as a top-dressing to meadows, or for mulching the wheat plants to prevent their freezing out,—which cannot be easily done with coarse stall manure.

In the Gentleman of the 27th ult., that astute farmer, John Johnston, says he tried cornstalk chaffing one year, but found it did not, with him, pay the labor. This is doubtless true where labor is dear and hay is worth only five or six dollars a ton in the stack, as it generally is in Mr. Johnston's vicinity; but where hay is from twelve to fifteen dollars the ton, with stalks in proportion, and Indian corn from the Western prairies cheap, the saving of hay and stalks by fine chaffing must be good economy if labor is not too dear. S. W. *Waterloo, N. Y.*

STATISTICS OF HON. Z. PRATT'S *Dairy Farm for the usual season of about eight months, for the years* 1857, 1858, 1859, 1860 *and* 1861—*Fifty Cows of what are called native breed, being kept each year:*

MILK.

	1857.		1858.		1859.		1860.		1861.	
	In lbs.	In. gals.	In lbs.	In gals.	In lbs.	In gals.	In lbs.	In gals.	In lbs.	In gals.
Whole Product,	254,736	31,842	260,450	32,556¼	240,700	30,087	217,736	26,276	227,757	28,301
Average per cow,	5,094.48	636.31	5,209	651.12	4,814	601.74	4,354.75	525¼	4,555	572.26
Average per day,	1,044	130½	1,067¼	133.4	982½	122¾	888.72	107.28	876	108.85
Average per day for each Cow,	20.80	2.60	21.30	2.70	19.65	2.45	17.77	2.14	17.5	2.17
Greatest av. in one day per cow,	24.18	3.25	31.50	3.31	28.35	3.53	25.60	3.40	26.7	3.3

BUTTER.

	1857.	1858.	1859.	1860.	1861.
Whole Product,	6,500 pounds.	8,050 pounds.	8,300 pounds.	9,143 pounds.	10,860 pounds.
Average per Cow,	130 do.	161 do.	166 do.	182.86 do.	217.20 do.
Average per Day,	26.61 do.	33 do.	33.92 do.	37.72 do.	41.76 do.
Average per day per Cow,	8.50 ounces.	10.56 ounces.	10.84 ounces.	11.94 ounces.	13.36 oz.
Average milk to 1 lb. Butter,	39.20 lbs. or 20 qts.	32.33 lbs. or 16.16 qts.	29 lbs. or 14.50 qts.	23.30 lbs. or 11.20 qts.	21 lb or 10.42 qts
PORK:—	Per Cow. Total.	Per Cow. Total.	Per Cow. Total.	Per Cow. Total.	Per Cow. Total.
Pork Made in pounds,	92¼ 4,627	148 7,403	129 6,455	130.3 6,516	133½ 6,625
SALES:—					
Butter sold,	$30.95 $1,547.54	$38.48 $1,924.02	$41.40 $2,070.00	$42.97 $2,148.89	$49.91 $2,497.80
Pork sold,	6.56 328.16	8.42 421.08	8.36 418.00	9.12 456.12	6.62 331.25
Calves sold,				80.00	38.65
Total,	$37.51 $1,875.70	$46.90 $2.345.10	$49.76 $2,488.00	$52.09 $2,685.01	$56.49 $2,867.70
Exp. for work'g farm over proceeds of same, not enumerated above, including $700 for each year, for interest on investment for farm and stock, $10,000,	1,415.50	1,380.50	1,550.00	1,125.75	1,150.75
Net profits above interest,	$460.20	$964.60	$938.00	$1,559.26	$1,716.95

PRODUCT OF COL. Z. PRATT'S DAIRY.

We recently gave a little account of Col. ZADOC PRATT'S Dairy Farming, together with some hints of a practical nature derived from the methods there adopted,—promising a statement in detail as to the products obtained. Such a statement, covering the past five years, will be found in the accompanying table. It shows a constant and gratifying increase in the amount of Butter annually made per cow. We should be glad if the same desire to do better and better from year to year, was more generally exhibited, and if the same careful record of the results accomplished, was more generally preserved. In these two respects, particularly, this table is worthy of careful examination.

ANOTHER CHEESE APPARATUS.

MESSRS. EDITORS—Noticing an article in the fifth number of the present volume of the Co. GENT. in answer to a correspondent's inquiry, recommending a cheese vat as equal if not superior to any in use in this State, and that if any one has a better, you would be glad to hear from them, I will avail myself of this opportunity to recommend to your correspondent and cheese dairymen, an apparatus called the "Empire Dairyman," invented, patented, and manufactured by Messrs. Redington & McCluer of Fredonia, Chautauqua Co., N. Y., which I think superior to the Oneida cheese machine, the milk being heated on an entirely different principle. It heats more uniformly. The heat is distributed through the water vat in such a manner that the temperature of the milk is raised gradually, and no part of the milk is raised above a point which will injure the oily portion of the milk. The heat can be turned on or off at pleasure, simply by giving a lever about a quarter turn. This apparatus has been in use for three years past, and it is the only one now sought for by the dairymen in this vicinity. This apparatus is also manufactured at Utica, Fort Plain, and Cooperstown, N. Y., and Richmond, Vt.

Feeling as I do, a deep interest in the dairyman's welfare, as I am one myself and well acquainted with the cares and perplexities of dairy-farming, I earnestly recommend the "Empire Dairyman," for I believe it an improvement, and that more and better cheese can be made by it than by any other with which I am acquainted, from the same quantity of milk. If I am wrong I would like to be convinced of my error, because I want the best in use, all things considered. DEXTER H. GOULDING.

Sheridan, N. Y., Feb. 10, 1862.

[An advertisement of the "Empire Dairyman" appeared in the Co. GENT. for Feb. 20, and in the CULTIVATOR for March.]

[For the Country Gentleman and Cultivator.]

New Process of Cheese-Making.

RESPECTED GENT.—I have been thinking of addressing a few lines to you ever since "SIGMA'S" last appeared in your columns—"the more by token," (as Bridget says,) that I have discovered thereby who "Sigma" is—a question which has puzzled me for some time. I desire to thank him for his compliment to my housewifery, of which I entertain much the same opinion expressed by an excellent old lady in our neighborhood, when some encomiums were passed upon her piety in her presence—that she "did not feel as if she had any to boast of, and the less said about it the better." You will perceive I am the person to whom "Sigma" alluded, who practiced upon the "Important Experiment in Cheese-making," (vol. 17th, page 175,) and "Remarks on Cheese-making," in the next No. It was my first experience in the manufacture of cheese from a dairy of 27 cows,—was entirely successful; every cheese cured perfectly and without any trouble—all were rich and well flavored. I was repeatedly admonished by the "wise ones" that I should spoil my cheese if I did so and so, or omitted to do this or that; to all which I resolutely replied, that I was trying experiments for my own satisfaction, and was determined to act quite independent of all pre-conceived opinions in the matter. I consider those hints and directions invaluable, and shall follow them closely hereafter. I cured my cheese in a dry, well ventilated cellar; the process was probably slower than it would have been in an upper room, but good judges say the cheese could not have been better cured.

Swanton, Vt. DORCAS.

[For the Country Gentleman and Cultivator.]

BUTTER MAKING.

EDS. CO. GENT.—I have kept the past season ten cows and one heifer, from which I have made 2,222 lbs. of butter, (being an average of 202 lbs.,) besides the milk used in a family of seven persons. The cows calved in April and the fore part of May. They were grade Durhams from one-fourth to one-half breeds from the stock of Jonathan Talcott, aged from 3 to 11 years. Their pasture was mostly red clover, with some timothy

and white clover mixed, situated on very dry ground, and which was fed pretty close most of the time. The water for them was raised by a pump. This might not be considered a very large yield, but in view of their keeping I think was very good, as they had *nothing but grass* in summer and *corn buts* and straw for the first four months, and hay the remainder of the foddering season, without roots or meal.

Will some one who has had experience, state in the Co. Gent., at what age cows are the most profitable for milk—also whether cows fed on pastures situated on dry ground will produce more milk or that of better quality, than those fed on moist pasture lands?

Rome, N. Y., Feb. 20th, 1862. A. B. BROWN.

[For the Country Gentleman and Cultivator.]

A CORTLAND COUNTY DAIRY FARM.

Cortland Village, N. Y., March 21, 1862.

Eds. Co. Gent.—I cut the following communication from the Cortland County Republican, exhibiting a good specimen of Cortland county dairying and farming. I know Mr. Sawyer well, (he worked my farm a year,) and I know his statements do not require to be taken with any allowances for exaggeration or error.

HENRY S. RANDALL.

I noticed in your paper a few weeks since a statement made by Mr. Shattuck, of Chenango county, respecting the amount of butter made by him last year, and the profits of his farm for that time. Feeling a little pride in the reputation of our own county, I send you the following items:

I have kept during the past year six cows, and have made 1,550 pounds of butter. You will see that this is an average of 258¼ pounds to a cow. My cows ate nothing but grass during the grazing season. I gave them no extra food whatever.

My pork amounted to $37.50. My calves and deacon skins to $16. Allowing the same price for my butter at which Mr. Shattuck has estimated his, and the average income of my cows will be $66.60. As his average is $55.92, I have exceeded him about $10. My farm contains forty-four acres, including three acres of woodland.

In addition to the avails of my cows I have raised in the past year

20	tons of hay, estimated at		$120.00
80	bushels of corn,	do.	40.00
60	do.	rye, do.	33.75
130	do.	oats, do.	36.50
27	do.	wheat, do.	30.00
12	do.	peas, do.	12.00
50	do.	potatoes,	12.50
			$284.75
	Add the avails of cows, as above,		399.60
	Total avails of 44 acres,		$684.35
	Average income per acre,		15.55

Cortland, March 14, 1862. Russell Sawyer.

[For the Country Gentleman and Cultivator.]

OUR BUTTER PRODUCT---1861.

Messrs. Editors—I have no large story to tell, but thinking that perhaps a brief account of our butter making operations the past season might prove interesting, have collated them for your readers. I gather the items from diary, cash book and memory, as I have not, as some years, kept a regular account with our cows.

We have milked three cows a part of the past season, selling the calf of the first one May 16, previous to which time (from April 9th) it had all the milk of the cow. Received $2 for the hide and one-third of the veal, retaining the balance for home use. Began to use the milk of the other cow May 30th. Had but little milk from the two year old heifer until the 1st of August, when we weaned her calf, then four months old. This heifer had very small teats, which rendered milking difficult, and we thought perhaps the calf could do it most economically.

No account has been kept of the entire product of butter, but only of that sold. We used milk, cream and butter for a family of six persons, not counting "the baby," and laid down a sufficient supply to last until the 1st of April, by which time we hope to make butter again. We also furnished the milk for two 18 pound cheeses for home use, making these in September.

The sales of butter from June 15th to the close of the year amount to 250 pounds—the cash received therefor, $28.45. About 30 pounds was sold for 11 cents, 80 pounds for 10 cents, 50 pounds (in Dec.) at 15 cents, and the balance at 12½ cents. Though butter, for a considerable part of the summer, was as low as 8 and 9 cents, we were so lucky as to find customers for all we sold at 10 cents, and usually got a cent above market price when there was any "briskness" of demand.

Had the whole product of the cows been turned into butter, we should, including that used in the family, have had at least 100 pounds more—not a bad result, considering the treatment of the cows, and the time they were in milk. They had pasture and a quart or two of bran and meal per day when brought up to the yard on the setting in of winter. With better feed they would have been more profitable, but butter making is only a secondary consideration on A. S. B.

Maple Hill, Jan., 1862.

[For the Country Gentleman and Cultivator.]

Cheese Poisoned by Painted Tubs.

To those cheese makers who still use a *tub*, a word of caution may be of use to those who have painted their tubs during the winter. A case came to my notice a few years since, where a party of gentlemen had lunched on crackers and cheese, seven of whom were soon taken sick—vomiting incessantly and suffering great pain. Physicians were called and all recovered. It being a clear case of *poisoning*, I was called upon to investigate the case, and the following fact was elicited:—"The tub used in the process of cheese-making had been newly painted—did not dry well, and was two or three weeks in getting cleaned off." We were all satisfied that the poisoning was from lead paint. I doubt if many of the readers of your paper use a tub, since the superiority of the vat with heater attached, is so universally acknowledged, yet this caution may be of service. D. *Oneida Co., N. Y.*

Town Union Agricultural Association of the County of Albany.

The adjourned meeting of the above Society was held at the house of Samuel R. Wayne, in the village of New Scotland, on Saturday, the 8th of March, 1862. The meeting was largely represented by the Agriculturists, Horticulturists, and Manufacturers of the county.

The Chairman called the meeting to order, and read the minutes of the last meeting, and stated the objects of this. The Secretary then read the articles of incorporation, constitution and by-laws, as presented at the last meeting, made in accordance to the provisions of an act of the Legislature, which were unanimously adopted by the meeting. On motion, the Secretary of the meeting was appointed Treasurer pro tem., when a large number became members.

On motion of A. Van Auken, Esq., the Chair appointed a committee to nominate permanent officers for the ensuing year. The following officers were then elected:

President—Jurian Winne, Bethlehem.

1st Vice President—James W. Jolley, Coeymans.

Vice Presidents—Henry J. Devoe, Bern; Robert Taylor, New Scotland; Dr. P. B. Noxon, Watervliet; Peter Shaver, Guilderland; Charles Bently, Westerlo; Geo. W. Durant, Rensselaerville; Stephen Marcelus, Knox; Luther Tucker, Martin Hallenbeck, and George Young, Albany.

Treasurer—Wm. H. Slingerland, Bethlehem.

Secretary—Samuel C. Bradt, Albany.

Directors—David Callanan and Henry Creble, New Scotland; L. G. Ten Eyck and John Sloan, Bethlehem; Judge A. Osborn, Watervliet; Alex. E. Willis, Coeymans.

THE CULTIVATOR.

ALBANY, N. Y., APRIL, 1862.

☞ The fourth annual convention of the New-England Cattle Breeders' Association was held at Hartford last week Wednesday, Paoli Lathrop, of South Hadley Falls, President, in the chair. The Treasurer's report showed a balance of $232 on hand. Probable indebtedness, $125. The election of officers resulted in the choice of the following:

President—S. W. Buffum of Winchester, New Hampshire.
Vice Presidents—R. Linsley of Meriden, D. Buck of Windsor, Ct., Milo T. Smith of Northampton, Mass., C. M. Pond of Hartford, Conn., H. H. Peters of Southboro, Mass.
Secretary and Treasurer—Henry A. Dyer of Brooklyn, Ct.

M. Dyer from the committee on the publication of a herd book, reported "that it would be necessary to provide ways and means for the expense of printing and binding. If 900 entries were made, and 50 cents each were paid as the resolution of publication provides, the revenue would amount to $450, while the book could be published for $400, the edition to consist of 500 copies. Six hundred such entries are already made, of which 212 are Ayrshires, 187 Devons, and 200 Short-Horns." The question of imparting more of a *national character* to the labors and sphere of the Association, was incidentally discussed; and it was finally decided to permit non-members to enter Pedigrees by paying 50 cents for each animal on the record, and $2 for a copy of the book. Resolutions were also passed to amend the constitution so as to fix the price of membership at the annual payment of one dollar, and to extend the privileges of the Association to all breeders of thorough-bred neat stock in the United States and the Canadas. Those desiring to have the pedigrees of their stock entered in the proposed Herd Book can address Mr. Secretary Dyer as above.

☞ We have to chronicle another considerable shipment of American Short-Horns to England. A private letter from a friend in New-York, received just as we go to press, mentions that "Lord Oxford," from the herd of Samuel Thorne, Esq., "Duke of Geneva" from that of James O. Sheldon, Esq., also two cows and young calves from Mr. Richardson, sailed for England on Saturday last in the steamer Washington, under charge of Thomas Galbraith who went out with the former shipment.

☞ In another column we give a valuable statement from Milton Conard of West Grove, Pa., upon the manufacture of Sugar from the Sorghum, by means of Cook's Evaporator. Mr. Conard sends us a sample of the sugar, a light yellow in color, moist, without any unpleasant taste to betray its origin—indeed in all respects a better sugar, as we should think, than is ordinarily seen upon the tables of working people throughout the community. We received last month a letter from a friend in Philadelphia, which we intended earlier to have noticed, asking our attention to the importance of encouraging the manufacture of Sugar from the Sorghum—at least of publishing the most successful means and experiments in accomplishing this purpose—urging that in no other way could so great good be done as by placing this knowledge within the reach of our readers and of the Agricultural public at large.

Mr. Conard has taken the agency of Cook's Evaporator, as will be seen by our advertising columns, and speaks of its successful operation with the same praise which we have uniformly heard from those who have tried it in making Sugar either from the Maple or the Sorghum. We are sure that our readers would be interested in a series of articles from his pen, embracing those details to which he refers at the conclusion of his present communication—in fine, all the information which from his own experience he thinks most requisite for the wants of new beginners. As the time of sowing the seed is drawing near, it is quite necessary that the attention of farmers should be given to the subject at once; and if several in the same neighborhood could combine for the growth the coming season of an experimental crop, say of two or three acres each, and for the purchase of a single Evaporator for the use of all, the outlay required would not be very great, and from present indications, there could certainly seem to be no room for loss. According to the figures of Mr. Conard, we calculate that the size of Cook's Evaporator to which he refers, would be of capacity sufficient in 60 working days between the 15th September and the last of November, to work up the produce of about 25 acres of Sorghum, averaging a yield of 175 gallons syrup per acre.

The subject is one well worthy of discussion, and in inviting farther details from Mr. Conard, we should also be glad to learn from our friends in the West their conclusions from past experience, and as to the prospect of the sugar manufacture the coming season with respect to extent and to the modes that are to be employed.

Manuring in Autumn and Spring.—Egbert Cary, present superintendent of Friends' Academy, at Union Springs, gives us the result of an experiment performed with applying manure to sod land in autumn and in spring, before inverting the sod for a crop of corn—and showing the great superiority of the autumn application.

A field which had been a meadow for five years, was divided into lands of seven paces each in width, and was 45 rods long. The grass was chiefly timothy, with a portion of clover. To six of the lands, barn-yard manure, that had rotted in the yard during the summer, was applied early in autumn, after the removal of the grass crop, at the rate of 13 two-horse loads per acre. It was at once well spread. Its effects were very visible by the fine green grass through the autumn. It was plowed just before freezing. A few more lands were manured at the same rate, in winter, but the manure was left in heaps, so that the effects were really the same as if it had been applied in spring. A part was yard manure, and a part from the hog-pen. It was spread and plowed under about the time that farmers usually begin to mellow their soils for corn; and the whole was planted. The yard manure spread in spring, produced no perceptible superiority in the growth of the corn, over that grown on the few lands that were left unmanured. The hog-manure, also applied in spring, showed an improvement just perceptible. But on the land manured in autumn and with yard manure, and where the fertilizing portions had been soaking all the autumn and a part of the winter into the soil, and thus becoming intimately diffused, the growth of the corn was greatly superior to the rest of the field; the result was very distinct and conspicuous.

☞ We are pleased to learn from Dr. Evan Pugh, President of the Pennsylvania Farm School, that that institution is now in a flourishing condition; about ninety students have already entered, and more are expected. The new buildings will be completed, it is anticipated, by next August.

☞ We have received a small sample of Sugar made by Jas. M. Moss of Iowa, from the *Imphee*. He thinks he has discovered the way to dry it enough without burning, to make it grain or crystalize. It is the first sample we have seen, we believe, from this kind of cane, and is of very fair appearance and quality.

A Fast Sheep.—We have a young ewe that dropped her first lamb Dec., 1860, and lost it; dropped another in June, 1861, and raised it, and now, Jan., 1862, has another by her side, thus making three lambs in about thirteen months—pretty well for a new beginner. M.

☞ Four Hundred Correspondents of the Mark Lane Express contribute to that journal of the 17th of February, returns as to the yield of the crops of 1861 in 38 counties of England. The following result will give our readers an idea of the productiveness per acre in that country, in a season which only one hundred, or one-fourth of the reporters, consider equal to or above an "average," while the other three-fourths characterize it as "under average," many of them rating the deficiency at from one-fifth to two-thirds:

Average Yield per Acre in 1861 *of Thirty-eight English Counties.*

Of Wheat,	29 bushels.	Of Barley,	37¾ bushels.
Of Oats,	46½ do.	Of Beans,	32½ do.
Of Peas,	30 bushels.		

The total average wheat crop of England one year with another, is rated at about nineteen millions of quarters, and the average importation at five millions, equivalent to an annual consumption averaging twenty-four million quarters, or 192,000,000 bushels. The actual yield of wheat in 1861 is put down at about 108,345,000 bushels. Consequently we have:

Estimated consumption to be provided for,	192,000,000 bushels.
Estimated crop of 1861,	108,345,000 do.
Deficiency to be imported,	83,655,000 bushels.
Of this amount there had been imported up to February 1st (and not re-shipped elsewhere) about,	20,000,000 bushels.
Leaving a further supply to be required, of,	63,655,000 bushels.

Say sixty millions of bushels of wheat to be imported between the first of February and first of September, when the new crop there will be available—or eight millions of bushels, or more, per month.

This does not look as though our grain markets would flag before the next harvest comes in; and it is fortunate indeed for us, both individually and nationally, and for the peace and welfare of the world, that we have the wheat to supply. When navigation opens our shippers may look for busy times again.

And we most sincerely hope that the Farmers of the Great West will not suffer themselves to be discouraged by present low prices from sowing a good breadth to spring wheat the coming season. We suppose the character of the past winter has been generally favorable for winter grain; and as soon as an intelligent opinion can be formed of its prospects, we hope our readers will communicate their character for publication in the COUNTRY GENTLEMAN.

☞ The question of the legality of "Trials of Speed" on Agricultural Show Grounds in this State, has at last come before the courts for decision. It appears that a Mr. Seymour brought an action in a Justice's Court at Rochester to recover the amount of a premium offered by the Monroe Co. Agricultural Society, at the "Horse Show" in June 1861, which was alleged to have been won by a Mr. Storey, and by him assigned to Seymour. The plaintiff gained his suit before the Justice, and the Society appealed. The ground of refusing payment was that the offering of a premium for a trial of speed between horses was contrary to law. (2 Rev. Stat., 5 Ed., 932, § 49.) Judge CHUMASERO, before whom the question came on appeal, has decided that this view of the case is correct,—stating, in his written opinion, in substance, that "if it be claimed that offering a premium is not a bet, stake or wager, no different result can be reached, for the statute first quoted makes the offering of any reward for speed, a misdemeanor, and no valid contract can be predicated upon a violation of law. At any rate, a contract made in contravention of the policy and spirit of the statute is equally void with one made in violation of its express provision. It was evidently the intention of the Legislature to suppress *every species* of bet and wager.

"In reply to the objection that the result to which he arrives will be to cripple or destroy the usefulness of such associations, the Judge remarks that the utility of any Society must not be made to depend upon violations of the law of the land. He doubts whether in the original formation of these Societies, horse-racing was considered essential to their prosperity or success. The practice seems to have been recently engrafted, and it is equally censurable with other horse-racing. In his judgment, it tends to develop and encourage a taste for gaming. If the Monroe County Society needs greater powers than it now possesses by law, let an application be made to the Legislature for them. Until that is done the Court must take the statutes as they are. The judgment of the court below is reversed."

WILLOW FOR WESTERN TIMBER.—Our Western subscribers frequently inquire for the best timber trees to plant. We observe in the late proceedings of the Illinois Horticultural Society, as published in the Prairie Farmer, that the Gray or Powder willow is strongly recommended. From the report of a special committee on this willow, we learn that this is the same willow that Dupont uses in the manufacture of powder—that it grows with great vigor, producing trees 15 to 20 feet high in three years. It grows freely from cuttings, with scarcely a failure, and in seven to ten years will make trees large enough for three rail cuts, the first making four rails, the second two, and the last a pole. These rails will last thirty years, if kept off the ground; and cutting in summer instead of winter, will of course greatly increase their durability.

☞ In our recent notes at Mr. TAYLOR'S South-Down Farm, Holmdel, N. J., we were inadvertently misinformed as to the amount of oats given to the full grown rams. In a subsequent letter from Mr. T. he says: "I think I must have told you *one pound* per day, as that was the quantity on my mind when feeding last night, but in calculating I find that I should have said *one-half pound.* The reason I did not call it *one pint* per day, is that very often our Jersey oats do not weigh over 28 lbs. per bushel, in which case a pint is not enough; so I give half a pound, which is equivalent to one pint per day when oats weigh 32 lbs. per bushel."

We also learn—although this information was not intended to appear in print—that subsequently to the time of our visit, up to the 20th inst., thirteen of Mr. Taylor's ewes had lambed, *eight of them bringing twins*—thus making twenty-one lambs, all of them, with the exception of one pair of twins, sired by "No. 89," and 17 out of the 21 being ram lambs. Mr. T. appears to be much pleased with the first evidences he now has before him, of No. 89's stock-getting merits, and thinks that his great vigor and activity may have had a decided influence in controlling the sex of his offspring.

☞ We are indebted to Col. JOHNSON for a letter on the "Illinois Coffee," of which so much has been said lately, by Dr. WARDER of Ohio,—published in another column. The plant referred to proves, it will be seen, to be no more than a sort of Vetch, and Col. J. remarks: "We have an abundance of *Peas* already in the Coffee trade, and do not desire to increase the propagation of this so-called coffee."

☞ The Massachusetts Board of Agriculture say that the "cattle disease," or Pleuro-pneumonia has re-appeared in several places in the eastern part of that State, and trace it directly back to the old source. The Legislature has been induced to appoint a new commission on the subject; and the Board of Agriculture, through a committee consisting of Henry H. Peters of Southboro, Phineas Stedman of Chicopee, and Freeman Walker of North Brookfield, have issued a circular, warning farmers to take the necessary precautions against contagion. Where the disease is suspected, the affected cattle should at once be isolated from all others; and care should be exercised by all in purchasing or permitting strange cattle to come in contact with their herds.

Inquiries and Answers.

CULTURE OF TOBACCO.—I have taken the liberty of asking you for information in regard to the culture of the tobacco plant. Will you be kind enough to reply through the medium of your paper, stating the time it should be planted—in what kind of ground—how it should be cultivated—when to pluck it—the mode of curing, and in fact all the particulars of the proper way to cultivate the tobacco plant? I have been a subscriber to your paper for some time, and do not remember of seeing anything published in it, in reference to this matter. C. N. L. *Newark, N. J.* [We must refer our correspondent to the COUNTRY GENTLEMAN for Sept. 27, 1860, p. 202, where he will find just the information he asks for, illustrated by several engravings. The same article may also be found in THE CULTIVATOR for 1860, page 338, the bound vol. of which we can send postpaid for $1.]

BIG-HEAD IN HORSES—CELLAR ABOVE GROUND.—1. Is there a cure for what is termed the big-head in horses, and if so, what is the treatment?—2. Can you furnish a plan of a substantial yet economical building above ground, that will completely protect from frost, as I have not a suitable place for a cellar? N. EDGERTON. [We are unable to give a remedy for big-head, having never had any experience with it, but we suppose it to be very difficult to treat, if not incurable. A building above ground, to exclude frost, should be something after the plan of an ice house, that is, with double walls filled in with tan, sawdust, or chaff. Common cellars owe much of their security against frost to the heat, which passes from the earth through thin walls and from the bottom. The apartment above ground can only receive the heat of the earth through the bottom, and care should therefore be taken to impose no obstruction to its free passage by any thing like a floor. The top should also be well secured from the entrance of frost above, either by placing a building or room above, to be kept warm by use and fire heat; or by a thick stratum of sawdust.]

CHURN AND DAIRY.—Will you or some of your correspondents give through THE CULTIVATOR, a description of the best kind of Crank Churn for making butter from a dairy of cows, say ten or fifteen, and where it may be had? Also a description of a building suitable for setting milk, to make the most and best butter—whether wood or brick is best? A SUBSCRIBER. *Oswego, N. Y.* [The common thermometer churn is the best that has been thoroughly tried. It may be had at all the principal agricultural warehouses. Descriptions of dairy rooms, illustrated by figures, may be found on pages 211, and 217, of Rural Affairs, vol. I.]

LIEBIG'S LETTERS.—D. R. P. and others wish to know in the next number of THE CULTIVATOR, if the Letters on Modern Agriculture by Baron Von Liebig, (advertised in last number,) are in the volume of his Complete Works, published some years ago? [They are not; the "Letters" referred to were written and published in 1859, and are not included in any collection of Liebig's other writings.]

LIME.—I have a few acres of meadow land that never has been plowed, and which has failed to produce any grass of account for two or three years. Would it be advisable to apply lime this spring ere plowing? Please give me your opinion, and oblige J. PIERCE BELL. *Sabbath Rest.* [A dressing of fifty bushels of lime per acre, more or less, would probably produce a beneficial result, although it does not always do so. The grass land in question might be made to give good crops again by *top-dressing well* with manure in autumn and harrowing the surface thoroughly early in spring with a sharp or new toothed harrow, sowing grass seed if it apparently needs it. If plowed up, the lime might be applied before or after plowing, but if before the plowing, it should be done the previous year, so that it may be well dissolved into the soil before inversion. There is no doubt that plowing up, cropping, manuring well, and then re-seeding heavily on a top-dressing of compost or fine manure, would result in very heavy crops of grass.]

QUINCES FROM CUTTINGS.—Let me know the most successful way of raisng quince trees from cuttings, as I frequently fail in my efforts. R. K. *Nashville, Ill.* [Take off the cuttings in autumn,—good one year shoots, with a little older wood—plant them out either late in autumn or very early next spring—if left till spring, they should be kept over in moist earth. They grow best in a compact, not a gravelly soil. We succeed best from autumn setting, mulching the surface of the earth with two inches of clear horse manure, which not only protects from the cold of winter and the drought of summer, but enriches the soil. Spring planting also needs mulching. In the absence of manure, forest leaves may do. The cuttings should be about 8 or 10 inches long, the upper end cut off, so as not to project more than an inch or two out of the ground, which should be trodden compactly about them, especially below. They may be planted in trenches cut with a spade by a line, and the cuttings be about half an inch apart in the row.]

COCKSPUR THORN.—*Crataegus crusgalli.* What kind of soil should seeds be planted on, and how managed to insure their vegetation? Please inform us where the directions for growing Feather Grass—*Stipa pennata*,—can be found? An article on the subject appeared in THE CULTIVATOR some time since, but the index gives no clue to its whereabouts. C. *Brookline, Mass.* [The Cockspur thorn will grow in any good soil, suitable for corn or fruit trees. The seed should be taken when nearly fresh, and kept slightly moist in sand or soil till planted. Soaking them a few hours in warm water, and then freezing them, and repeating the process, will insure and hasten growth. Such as do not grow the first year will be likely to grow the second. We do not know of any peculiar management required for the feather grass, nor where the information sought may be found.]

RHUBARB WINE.—Will you please give me, through THE CULTIVATOR, a recipe for rhubarb wine, I have heard of it, but never could find a recipe. J. R. [See page 257, CULTIVATOR for August, 1860, and page 221, July, 1861.]

ALSIKE CLOVER.—Please state in THE CULTIVATOR where I can procure seed of this variety of clover, how much to sow per acre, and what is the price of the seed. WM. MAUD. *Milwaukee Co., Wis.* [Advertisers would do well to furnish such information as the above through the appropriate columns of our paper.]

TOBACCO SEED, &C.—*R. C., New Brunswick, N. J.* You can get tobacco seed of J. M. Thorburn & Co., 15 John St., New-York. It should be sown in a seed bed, and transplanted the same as cabbage. The books you inquire for, can probably be procured at Saxton's bookstore, New-York.

TANNING HIDES.—In the "Rural Register" for 1862, is given the method of preparing raw hide for farmer's use, which I think is valuable. I have tanned sheep skins in a very similar way, but had never thought of preparing hides for any practical purposes. It is my present purpose to tan my deacon skins this season, and use some of them for moccasins. I would like to black the flesh side, if you or some of your correspondents, can inform me what kind of blacking to use—how, and when, is the best time to apply it? W. S. LUM. *New Britain, Conn.* [Will some of our correspondents please answer.]

ENGLISH AGRICULTURE.—What is the price of the book containing your travels in England? D. R. P. *Iowa city.* [The editorial letters on English Agriculture published in the Co. GENT., have never appeared in separate form.]

PARADISE APPLE.—I would ask the question, what is the Paradise stock which is used for grafting? for I confess I am totally ignorant. I have always supposed it to be the wild crab apple. I have asked even those who cultivate fruit trees for sale, but found them equally ignorant about the same. W. G. *North Bay.* [The Paradise used for working the common varieties of the apple upon, to render them dwarfs, is a very small variety, growing only a few feet high, and rendering the trees small that grow upon it. It is propagated by layers or stools, and is imported from Europe by nurserymen who raise dwarf apple trees. The crab is a totally different species.]

SEEDING DOWN.—In seeding down with clover and timothy for one year's hay and two years' pasture, how many pounds of each should be sown on light soil? Timothy takes well on my land, but clover better. A NOVICE. *Canada West.* [Good farmers vary much in their proportions of clover and timothy; but a peck per acre of equal parts in mixture is common. Where the growth of timothy is the main object, more of this grass is sown, but there should be some clover to keep the soil loose. Where a grain crop for manure is desired (which is not the case with our correspondent) nearly all clover is sown.]

OLD MANURE.—We have here in the mountainous districts, many manure heaps that have been accumulating for 12 to 15 years; the owners think it more profitable to clear new land than to spread them. Please tell me what is the relative value of such manure compared with fresh barn-yard manure, and if you think it is worth 10 cents per load and the trouble to haul it three miles over a mountain, where the cost of hauling each load at this season would be only 30 cents. M. MULLIN. *Leeds, Lower Canada.* [The

value of the manure may vary with circumstances, but it is probably quite as valuable as the best manure in a fresher state. Although much of the fertilizing parts may have escaped, or been washed away, the vegetable portions of the heap have absorbed and retained much, and the fine friable condition it is now in renders it more easily broken up and intermixed with the soil, and more perfectly spread for top-dressing. If properly used,—that is, in connection with good farm management, it will be worth much more than its cost.]

Corn Suckers.—Can you give me any information with regard to the propriety and utility of taking the suckers from corn when growing? At what time should it be done, if at all? I have inquired of many farmers, and they are unable to answer me. N. E. J. [The operation is rarely if ever practiced in the northern States, and we have have no distinct experiments bearing on the question. According to the principles of vegetable physiology, it should be done just as the suckers are forming, so as to obviate the check given to the whole plant by the removal of a portion of its foliage. If done at this early period, it would probably increase the growth of the rest of the plant—later, it might prove injurious.]

Corn Suckers.—In the Co. Gent. of March 13th, "N. E. J." inquires as to the expediency of cutting suckers out of corn. The following is my experience in the matter: A few years since I had an acre of corn near my house, of heavy growth; after it was well tasseled out, I commenced cutting out the suckers and fed them to my oxen in the barn. The oxen improved to the detriment of the corn, for the kernel did not fill out on the ear, and the yield I think must have been 12 or 15 bushels less than if the suckers had remained. J. C.

Improving Hill Land.—I have a piece of land on the top of a hill—it is rather stiff clay and wet, (needs underdraining,) and descends slightly towards the north. The hill is so steep that it is difficult to get manure up there; still it needs manuring. Is was sowed with buckwheat last season, and I have been thinking of sowing it with clover this spring and plowing it under next autumn, and sow with rye, and seed with clover and timothy. I fear I can't plow it in the spring, as it will be too wet. Should I harrow it and then sow, or should the sowing be done before, or as soon as the snow disappears, or can you suggest a better way of managing it. H. [As the soil has doubtless settled considerably since the buckwheat was sown, it is not probable the surface will be sufficiently friable to receive and start the seed without some additional preparation. If it should prove dry enough to harrow and form a mellow surface within a week or two, or even three weeks, of the time that the frost disappears from the ground, there will be no difficulty, provided the grass seed is rolled in or covered with a light brush. After that time it would be safest to plow and sow it with a very thin crop of barley, say one-half the usual amount of seed, or less, which we have found quite successful in such cases. We think it may be better not to plow the clover in the first year, as the roots and whole plant will be larger and more useful the second year, and an additional crop of grass may be taken without detriment, either for meadow or pasturage.]

Pond Mud.—Can you tell me whether the mud taken from the bottom of a canal will pay for hauling it on to a farm that the canal runs through, where such mud is loam. P. *Montour Co., Pa.* [If the mud is washed rapidly into the canal, with little chance for animal matter to become mixed with it, it may be of comparatively little value; yet as it is entirely free from stone, it would make a useful and valuable top-dressing for meadows, applied *evenly* an inch thick, more or less. But if the mud is the deposite of years, and the water of the canal contains a good deal of animal matter, the mud is doubtless quite valuable, as its clayey ingredients have absorbed much ammonia from the passing water, and much fertilizing matter has been deposited in sediment. Will our correspondent try the experiment and report results?]

Cultivating and Seeding Peach Orchards.—I have a peach orchard of ten acres, which is very weedy, and when plowed it is left in a miserable condition for gathering the fruit. I wish to sow it with clover. Will it do to sow buckwheat with the clover, to keep the weeds down till the clover gets a start, or will the buckwheat be injurious to the clover? If you or any of your numerous readers have ever tried it, I should like to know the result. C. [Unless the soil is extremely fertile we think the orchard will be so retarded in growth by seeding down that the fruit will be greatly diminished in value. As a general rule, if the annual shoots made are less than two feet long when in grass, the trees are not thrifty enough, and the orchard should be kept cultivated. Our own experience is, trees well cultivated grow three to four feet each year, and give very fine, delicious fruit; if standing in grass, they grow from three to eight inches annually, and yield small and poor fruit. Plowing once early in the season, and then harrowing once a month, will leave a smooth surface before the peaches are ripe. This is the course adopted by the most successful marketers of the peach in the eastern and middle States. If, however, the growth is sufficient when the trees stand in grass, we would recommend the seeding to be done quite early in spring with no other crop, the seed to be rolled or brushed in. The trees will perhaps furnish some shade to the clover; but if not enough, or if the sowing is late, then instead of buckwheat, (which has considerable foliage, and as usually sown affords too dense a shade for clover,) we would sow about half the usual amount of barley with the clover. Possibly a very thin seeding of buckwheat might be useful.]

Preparing Walnut Nuts for Planting.—I have been saving through the winter some very thin shelled walnuts. Will they germinate by my simply planting them as they now are, or must I crack the shells? Any directions as to what would be the most approved method of treating them, will greatly oblige Newton Ranson. *Ulster Co., N. Y.* [We have not had a large experience with raising walnut trees. As a general rule, all hard shelled seeds are difficult of growth if allowed to become very dry. In this case, they must be either cracked, or else repeatedly subjected to the process of scalding and freezing. Very much depends on the manner in which they have been kept. If in moist soil, no injury whatever has been sustained; if in a dry garret, they may be too dry to grow.]

Rio Grande Spring Wheat.—James M. Rockwell wishes to know where he can procure a few bushels of Rio Grande Spring Wheat for seed. Please say to him that he can procure a few bushels or a few hundred, of me, for one dollar per bushel at the barn, or one dollar and ten cents per bushel delivered on board the cars of the Buffalo, N. Y. and Erie R. R., he paying for bags or barrels. D. B. Waite.

Springwater, N. Y.

Java Spring Wheat.—I notice in your last No. an inquiry in regard to Java Wheat. I believe it maintains its superiority as a Spring variety. It was not so good as the year before, being injured by the louse, especially that sowed late, but not more so than late oats, barley, &c. It is the practice here by the most successful wheat growers, to sow it as soon as the ground is in condition, usually in April. The earliest sown is almost always best. As the Java shells very easily, it should be cut before fully ripe. We are not troubled by the midge in this section, and I believe the Java has never been injured by insects till last year. About 1¼ bushels are usually sown to the acre. It is also customary to sow wheat on land that has borne corn the year previous, without manure. As to where seed can be obtained, I raise only for my own use, so have none to advertise, but to oblige any one wishing to try it, will obtain and deliver it at R. R. or Express at $1.75 per bushel, and the cost of bags, &c. Many of our farmers sowed winter wheat last autumn, distributed by the Patent Office, but I learn it failed in every instance. I received the Beardless barley from the same source, but do not regard it as a profitable crop to raise. As a general thing it is not liked by our farmers.

Holden, Mass. C. W. GLEASON.

Disease in Fowls.—Will you be kind enough to inform me what remedy there may be for a disease that has broken out in my poultry house. The symptoms are a running of a watery nature from the eyes, accompanied with a redness around the lids, followed in a day or so by blindness, and with death in three or four days. I have lost some valuable fowls from this disease, and am at a loss to know what to do. My poultry house is well lighted and ventilated, and the fowls have access to the open air whenever they wish it. There is an entire absence of sneezing, coughing, &c., as is manifested in the roup, and having given them only ordinary food with a full supply of earthy substances, I cannot account for the disease and would feel obliged if some one would favor me with a remedy if my description has been sufficiently explicit. E. M.

Transferring Bees.—I have a hive that is too large, and I wish to get the bees from out of it into a smaller one; will Mr. Quinby tell me the best time to do this? The hive they are now in has holes in the top, where I put on boxes, and I propose to set the new hive on top—take out the stopper and stop the present *entrance;* then make one on the lower side of new hive, and thus transfer them. Will this plan answer? J. E. *Belmont Co., Ohio.*

GOODRICH'S SEEDLING POTATOES.

I. VARIETIES.—1. GARNET CHILI, red. 2. PINK EYE RUSTY COAT, white. 3. CUZCO, white. These three are all round, and ripen with the season. The first two yield very largely, and possess a higher degree of hardiness and adaptation to all soils and weather, than any other sorts known to me. The Cuzco is a little less hardy, but is the largest yielder within my knowledge. 4. COPPER MINE, slightly copper colored, longish, in hardiness like the Cuzco, and two weeks earlier than the three preceding.

These four sorts have all white flesh, GROW CLOSELY in the hill, do not PUSH OUT of the soil, and are very smooth and beautiful, except that the Cuzco is a little deep eyed. In most localities they have all acquired a good character for table quality. They have been selected in a thirteen years experiment, from more than ten thousand new seedlings. In good soils and seasons, and with fair culture, they will readily yield from 250 to 350 bushels to the acre, while in the hands of many of my correspondents, they have far exceeded those figures.

☞ I have no very early sorts that are well tested, but hope to have such by 1864.

II. AGE AND DIFFUSION.—The Garnet Chili is a seedling of 1853, and has been before the public for six years. It is now more extensively cultivated than any other new variety, and is beginning to be sold under new names. The other three sorts are seedlings originated in 1856, and have been in market but two years. They are all already known in nearly every State north of Virginia and Kentucky, and in Canada.

III. PRICE.—$3 (three dollars) per barrel of 140 lbs., $1.50 per bush., $1 per half bushel, and 50 cents per peck, CASH IN ADVANCE. The larger price is charged for the smaller quantities from the proportionably greater cost of packing and delivery.

IV. TRANSMISSION.—They will be forwarded by railroad, canal or express, as shall be directed. The sorts shall be kept distinct, and the packages carefully directed. The sorts will be described in a printed sale bill, with directions for potato culture, which will be forwarded by mail when the potatoes are sent.

☞ Sums of less than $1 may be sent in 3 cent postage stamps.

☞ The first of April is as early as potatoes can usually be sent safe from frost, except they go directly south.

CHAUNCEY E. GOODRICH, Utica, N. Y.

REFERENCES.—From among very numerous persons who have cultivated these and others of my seedlings for the last two years, I select the following:—George Buckland, Toronto, Canada West: Geo. Bachelder, Stanstead, Canada East, H. M. Cram, Vergennes, and Albert Breese, Hubbardston, Vt. Charles H. Gleason, Holden, Wm. Bullard, Dedham, and Wm. F. Bassett, Ashfield, Mass. Horace Humphrey, Winchester Corners, Ct. Jesse Vaughn, Cheektowaga, Samuel J. Wells, Fayetteville, E. W. Howell, North Chili, O. C. Chapin, East Bloomfield, John Bowman, Baldwinsville, and Edward Merritt, Poughkeepsie, N. Y. W. W. Griscom, Woodbury, and Benj. Sheppard, Greenwich, N. J. P. B. Gray, Half Moon, P. Sutton, Pittston, and Aaron Bombaugh, Harrisburgh, Pa. Yardley Taylor, Loudon Co., Va., J. Howard McHenry, Baltimore, Md. J. C. Holmes, Lansing, and S. T. Douglas, Detroit, Mich. S. L. Manker, Pontiac, and John Moss, Robin's Nest, Ill. Feb. 13w&m.

STEEL PLOWS

We are now manufacturing a superior **Steel Plow**, intended for general use. Some of the advantages it possesses over the cast iron plow, are lightness of draught, durability, and freedom from clogging or sticking in heavy, clayey sticky or tenacious soils. The parts most exposed to wear are so constructed that they may be readily repaired by any blacksmith.

We would refer to the following persons who have them in use:

John Johnston, Geneva, N. Y.; Wm. Summer, Pomaria, S. C.; R. C. Ellis, Lyons, N. Y.; Col. A. J. Summer, Long Swamp, Florida; A. J. Bowman, Utica, N. Y.; A. Bradley, Mankato, Minnesota; A. L. Fish, Litchfield, N. Y.; Volney Owen, Union, Ill.; John Slighter, French Creek, N. Y.

"Mohawk Valley Clipper," No. 1, full trimmed, all steel,.. $15.00
do. do. with cast point,..... 14.00
"Empire," No. 1, with cast point, full trimmed,..... 15.00
For Three-Horse Plows,..... $1.50 extra.
For Adjustable Beams, ... 1.00 do.

We also manufacture Sayre & Klink's Patent Tubular Shank

STEEL CULTIVATOR TEETH.

These Teeth are intended to supersede the old style of wedge teeth and teeth with cast iron heads. They are not liable to become LOOSE in the frame, like the FORMER, nor to BREAK, like the LATTER. They are as readily attached to the frame as any form of tooth.

SAYRES' PATENT HORSE HOE.

This implement is considered to be superior to any other for cultivating Corn, Cotton, Tobacco, Potatoes, Hops, Broom Corn, Nurseries, and all crops planted in rows or drills.

Steel Shovel Blades and Cultivator Points made, and all kinds of Swaging and Plow work done to order

☞ SEND FOR A CIRCULAR. ☜

REMINGTONS, MARKHAM & CO.,
E. REMINGTON & SONS, BENJAMIN P. MARKHAM, GEO. TUCKERMAN. } Ilion, Herkimer Co., N. Y.
March 21—w&mtf.

EMPLOYMENT.—A NEW ENTERPRISE—THE FRANKLIN SEWING MACHINE CO. want a number of active Local and Travelling Agents. A liberal salary and expenses paid, or commission allowed. Address, with stamp, HARRIS BROS., Boston, Mass. (CLIP THIS OUT FOR REFERENCE.) March 27—w&m3mos.

THE YOUNG FARMER'S MANUAL—With Practical Directions for Laying Out a Farm and Erecting Buildings, Fences, and Farm Gates. Embracing also the Young Farmer's Workshop: giving full directions for the selection of good Farm and Shop Tools, their Use and Manufacture, with numerous Original Illustrations of Fences, Gates, Tools, etc., and for performing nearly every branch of farming operations. By S. EDWARDS TODD. Price $1.25, by mail post paid. For sale by L. TUCKER & SON, Co. Gent. Office, Albany, N. Y.

MANUAL OF AGRICULTURE,

Prepared under the direction and published with the sanction of the

MASSACHUSETTS STATE BOARD OF AGRICULTURE.

An Elementary Treatise, comprising the Principles and Practice o Agriculture, including the Composition of Soils, the Atmosphere, Water, Manures, &c., the Preparation of Lands, the Culture of Special Crops, the Principles of Rotation, the Diseases and Enemies of Growing Plants, the Choice and Management of Farm Stock, and the General Economy of the Farm and the Household.

For the Use of Schools, Families, and Farmers.

BY GEORGE B. EMERSON.

For many years connected with the Massachusetts Board of Education, and author of a valuable Report on the Trees and Shrubs of Massachusetts—and

CHARLES L. FLINT,

Secretary of the Massachusets State Board of Agriculture, author of a Treatise on Milch Cows and Dairy Farming, Grasses, and Forage Plants, &c.

ILLUSTRATED BY MANY ENGRAVINGS.

This work supplies a want long and deeply felt in our public schools, and the fidelity, care and practical good sense with which it has been prepared cannot fail to commend it to general favor. The Board of Agriculture of Massachusetts, after a most careful and thorough revision, have given to this Manual the following full and hearty endorsement:

Resolved—That this Board approve of the Manual of Agriculture submitted by its authors, Messrs. Geo. B. Emerson and Charles L. Flint, and recommend its publication by these gentleman, as a work well adapted for use in the schools of Massachusetts.

Price 75 cents. Copies sent by mail on receipt of the price.

Every farmer and every man who cultivates a garden should have this book. For sale by L. TUCKER & SON.
Jan. 2—wtf. Albany, N. Y.

FRUIT TREES AND EVERGREENS.

200,000 Extra 2 year old Apple Stocks, $5 per 1,000—$40 per 10,000. Also Mahaleb, Pear, Paradise and other stocks. Larches, Norway Spruce, Scotch Fir, Austrian Pines, Balsam Firs, Arbor Vitae, Maples, English Oak, Beech, Hornbeam, Birch, Willows, Ash, Mountain Ash, Linden, Laburnum, Horsechestnut, Hawthorns, Elms, Deciduous Cypress, English Alders, and Shrubs of all kinds, in all sizes.

Catalogues are now ready. B. M. WATSON,
Old Colony Nurseries,
Marce 20—w6t. Plymouth, Mass.

COOK'S IMPROVED PORTABLE SUGAR EVAPORATOR.

The subscriber has received from the proprietors the sole agency for the sale of COOK'S IMPROVED PORTABLE EVAPORATOR in the following counties:

Chester, Delaware and Montgomery in Pennsylvania.
Burlington, Camden and Gloucester in New-Jersey.
New Castle and Kent in Delaware.
Cecil, Hartford and Baltimore in Maryland.

And also an agency for the sale of the MOST IMPROVED CANE CRUSHERS for horse or water power. A limited amount of pure CANE SEED on hand for distribution.

For information about the cultivation of the cane and its manufacture, send for circular. MILTON CONARD,
March 20—wtf. West Grove, Chester Co., Pa.

ROOFING SLATE.—EAGLE SLATE COMPANY,

Depot Corner of 10th Avenue and 12th Street, New-York, ADAM PONTON.

Quarries at Hydeville, Vermont, A. K. RIDER, Supt.

This Company invite the attention of the public to their superior and well known GREEN AND PURPLE ROOFING SLATE, which they are prepared to deliver from their Quarries or Depot, in all sizes suitable for roofing.

The public are cautioned against a spurious and inferior article, which has been represented and used as "EAGLE SLATE."

A SLATE ROOF IS PREFERABLE

to TIN, SHINGLES or IRON. If well put on it lasts a lifetime without needing repairs. It is as cheap as tin or shingles. It needs no paint. Rain water from a slate roof is pure, it has no taint of decayed wood or paint. Slate roofs are fire proof; Insurance companies favor them. Steam will not affect them.

Experienced slaters, if required, will be sent to any part of the country upon application at the New-York Depot.

Orders addressed as above, or to G. FURMAN, 26 Courtlandt-St., New-York, will receive prompt attention. March 13—w12t.

DOWNING'S FRUIT AND FRUIT TREES Just Published and for Sale at this Office—sent by mail, postpaid, at $1.75.

[From the Maine Farmer.]

Coe's Superphosphate of Lime.

The testimony in favor of the use of Coe's Superphosphate of Lime, is from the most reliable sources, and of so conclusive a character that there should be no hesitation on the part of farmers and others to apply it in the culture of every description of farm crops. Levi Bartlett, one of the most intelligent and successful agriculturists in the country, writes as follows:

WARNER, N. H., Dec. 23, 1861.

MESSRS. COE & CO.:—Your favor of the 14th inst. was duly received. In reply to your inquiries about the use and results of your Superphosphate of Lime in this vicinity the past season, I am happy to say its application gave very general satisfaction—so much so that the testimony is strongly in favor of its use, and many that used it the past season will purchase more largely the next spring.

The Superphosphate was mostly used for the corn crop; some of the farmers estimating the increase of the crop at least twenty-five per cent.

I procured a bag of your brand at Manchester last spring, as also a bag of Peruvian Guano. I experimented with the two manures, in equal quantities, on different soils and crops—such as corn, potatoes, beans and turnips. In every instance the Superphosphate exhibited the most marked effects.

There has been but little Superphosphate used in this vicinity till last spring, and that mostly on the corn crop. I have no doubt further experiments would have shown it equally valuable on most of our farm crops—and much more so on the turnip tribe of plants. I used it freely in growing the sweet German turnip, the bulbs averaging twice the size of any grown in previous years, on similar land and culture, except the Superphosphate. You are aware of the importance attached to Superphosphate in Great Britain, in the growth of turnips and other root crops. The nutrition of plants is the same the world over. The same manures found useful on the long cultivated soil of Old England, will be found equally useful on the long cultivated soil of New England. Among the artificially prepared manures in England, Superphosphate has a well deserved and high standing.

To give some idea of the expenditure of British farmers for bone-dust and Superphosphate of Lime, I give the following figures, recently employed by Prof. Anderson of Glasgow, in a paper on "Analysis and Valuation of Manures;"

Annual amount of bone dust, 40,000 tons, at £6	£240,000
Annual amount of Superphosphate made from bone and bone ashes	770,000
Annual amount of Superphosphates from Coprolites	360,000
	£1,370,000

Or, in dollars, six million, eight hundred and fifty thousand, annually expended for bone and Superphosphate for manuring their "rented acres." English, Irish and Scotch farmers find it for their interests to purchase largely of commercial manures in addition to all that can be made upon their farms, which is generally managed with the most scrupulous care and economy. It will be well for New-England farmers to carefully test the experiment of using Superphosphate.

March 20—w&m1t. (Signed) LEVI BARTLETT.

GARNET CHILI AND OTHER NEW SEEDLING POTATOES.

Five Hundred bushels, for sale by the subscriber. Price of Garnets $1 per bushel, or $2.50 per barrel. Circulars free.

March 20—weow3tm1t. C. W. GLEASON, Holden, Mass.

LARGE VINES OF THE CONCORD, CREVELING, DELAWARE, DIANA, HARTFORD PROLIFIC and REBECCA, for immediate bearing. Prices reasonable. Catalogues sent to applicants enclosing stamp. HEFFRON & BEST,

Feb. 6—wtfm3t. Utica, N. Y.

A NEW GOOSEBERRY AND NEW RASPBERRY

from the great West. The Gooseberry is large, smooth, prolific, of fine flavor, and free from Mildew. The Raspberry is a black cap, even larger and finer than Doolittle's Improved. Circulars sent on application. HEFFRON & BEST, Utica, N. Y.

Feb. 6—wtfm3t.

OSIER WILLOW—Salix Purpurea.—Cuttings and Plants at low prices. HEFFRON & BEST,

Feb. 6—wtfm3t. Utica, N. Y.

NORTH RIVER AGRICULTURAL IMPLEMENT AND SEED WAREHOUSE.

This is the largest depot in the country for the sale of

No. 1 Peruvian Guano, Superphosphate of Lime, Bone, Plaster, Poudrette, &c.

GRIFFING BROTHER & CO.,

Feb. 27—w8tm2t. 60 Courtlandt-St., New-York.

100,000 BARRELS OF THE

LODI MANUFACTURING CO.'S

POUDRETTE

FOR SALE BY

JAMES T. FOSTER,

No. 66 Cortlandt-St., New-York.

THE large facilities which they enjoy by exclusive contract for all the night soil of the city of New-York, and the large capital invested in their extensive works, enable them to manufacture an article which is superior to any other fertilizer in market, taking COST and YIELD into consideration. It will be sold at the usual price of $1.50 per barrel for seven barrels or over, delivered free in New-York city.

Please take notice that the office and sale of this Company's Poudrette is changed from Messrs. Griffing, Brother & Co., No. 60 Cortlandt-Street, to No. 66 CORTLANDT-STREET.

Other brands of what purports to be Poudrette are in market, put up in barrels to resemble this. Beware of frauds—buy that only which has the brand of the Lodi Manufacturing Co. Any other article is comparatively worthless.

We call attention to the following experiences of practical farmers in different sections of the country:

NORTH PEMBROKE, MASS., Oct. 7, 1861.

James R. Dey, Esq., President of the Lodi Manufacturing Co.:

Dear Sir—The early autumnal frosts for several years past have seriously injured our corn crops, and rendered it necessary for farmers in this section to seek some fertilizer to give their crops an early start, in order to bring them to maturity in season to avoid that calamity. Having experimented with Guano, Superphosphate of Lime, etc., etc., with indifferent success, in the spring of 1860 I purchased four barrels of the Lodi Manufacturing Co.'s Poudrette, which I applied principally to my corn crop, with the most satisfactory results. This was the first Poudrette ever introduced into this vicinity. Last spring I procured from your branch office in Boston about 30 barrels, the most of which I sold to my neighbors, who had witnessed the effect of my last year's trial, which, so far as heard from, has given universal satisfaction. To further test the efficacy of your Poudrette, this season I plowed about two acres of light sandy soil, which had laid in grass about six years (the last crop of grass being very light.) This I planted with corn and potatoes, applying about four and a half barrels of Poudrette, with no other manure, except a handful of ashes to each hill at the first hoeing, and from present appearances we shall have a better crop than on a field of like soil where we applied twenty-five loads of manure to the acre. Its effects on garden vegetables are equally apparent. I am, very respectfully, yours,

HORACE COLLAMORE.

MERRILL, ME., Oct. 11, 1861.

Lodi Manufacturing Co.:

Sirs—I bought of your agents, Cross & Newell, two barrels of your Poudrette, and in using the first I got sick of it, and sold the other barrel. But the one that I used I tried the principal part on potatoes. I used about half a pint to the hill, and the yield was equal to those planted on manure at the rate of twenty loads to the acre. My neighbor who bought the other barrel says if he had bought five barrels more he would have saved the price of twenty barrels. Yours, &c.,

V. B. PAUL.

WALDO, ME., Oct. 12, 1861.

To to the Lodi Manufacturing Co.:

Gentlemen—Last spring I bought from Cross & Newell one barrel of your Poudrette, as an experiment, with but very little faith in its utility. I put it on 6 rows of corn in different parts of the field, after manuring with barn-yard manure in the usual way—at the second time hoeing, where I put the Poudrette the corn was twice as large as the rest of the field, and this now is one-third heavier, and has ripened about eight days earlier. I think it the very thing we want for raising corn in this country, and shall use it more extensively another year

Yours, &c., WELLINGTON SHOREY.

SMYRNA, DEL., Oct. 1, 1861.

Gentlemen—I had heard of the Poudrette manufactured by the Lodi Manufacturing Co., and thought I would try a small quantity on a lot of land intended for corn, and as I could not get it nearer than Philadelphia, I went and bought of the agent twenty barrels, and applied two barrels to the acre, dropping the corn and a handful of Poudrette in each hill. I left out a part of two rows and put no Poudrette, to ascertain if there was any value in it, and noticed those two rows during the season; and where the Poudrette was used the corn was decidedly the best, and I have no hesitation in saying it is a good manure for corn. I am certain I made from one-third to one-half more by using it. Yours, respectfully,

JOHN G. BLACK.

CHESTER, PA., Sept. 14, 1861.

To the Lodi Manufacturing Co.:

Gentlemen—I purchased this season of Messrs. Baker & Co., eleven barrels of Poudrette, and one bag of Phuine, which I put on my corn. I marked the place where I put the Phuine, which, when started, seemed ahead, but now the corn where the Poudrette was on is much the best. Last year I used Allen & Needle's New Fertilizer, which did no good at all, as the corn done better without the manure. I think the Poudrette made by your Company the cheapest manure in use.

Yours, &c., A. R. PERKINS.

The Company's pamphlet, containing directions for its use, with other valuable information and the experience of over one hundred farmers, will be sent free to any one applying for the same. Address

"JAMES T. FOSTER,"
Care of Lodi Manufacturing Co.,

Jan. 2—w13tm3t. 66 Cortlandt-St., New-York.

Agricultural Books for Sale at this Office.

SHORT-HORNS AND ALDERNEYS FOR SALE.

The subscriber offers for sale, at reasonable prices, a number of Short-Horn cows, heifers and bulls, of Bates' blood, and in prime con dition, and also a few pure and high grade Alderney cows, heifers and bulls of the best blood in the country, delivered at the cars in Albany free of charge. Address Dr. HERMAN WENDELL,
Feb. 13—w&mtf. Hazelwood, Albany, N. Y.

SHORT-HORN BULLS FOR SALE.—

I offer for sale, or will exchange for SOUTH-DOWN SHEEP, the bulls Jack Rover and Wide Awake. For pedigrees see 5th vol. A. H. Book. MILNER CASE, Avon, Hartford Co., Conn.
March 13—w3tm1t.

BERKSHIRE SWINE AND YOUNG SHORT-HORN BULLS FOR SALE.

Berkshire Sows to produce litters in April and May next varying in price from $20, $15 and $10 each, and Boars old enough for propagation, at the same prices. Boxed and delivered on rail car or shipboard. L. G. MORRIS.
Jan. 23—w&mtf. Scarsdale P. O., Westchester Co., N. Y.

IMPORTANT TO CHEESE MAKERS.

THE ONEIDA CHEESE VAT,

Ralph's Patent, is superior in practical utility, material and workmanship to any in use. Though but recently patented and introduced to the public, the demand for them is unprecedented. Circulars containing a general description, sizes and prices, sent by mail on application to WILLIAM RALPH, Holland Patent, N. Y., of whom State, County and Town rights for this valuable improvement may be obtained on reasonable terms. Jan. 16—w&mtf.

JOSEPH BRECK & SON, SEEDSMEN & FLORISTS,

51 & 52 North Market-St., Boston,

Offer for sale the choicest collection of VEGETABLE SEEDS to be found in this country, including every new and rare variety, of their own raising or importation, and are warranted reliable in every respect.

By remitting $1, $2, $3, $5 or $10 we will send, free of charge, liberal assortments put up for family use as may be wanted.

Our collection of FLOWER SEEDS, embracing everything new from London, Hamburgh and Paris, are from the best Florists of Europe, and have always proved to be good and true. Such as are raised best in this country are grown by our senior partner, JOSEPH BRECK, Esq., President of the Massachusetts Horticultural Society, whose well known love of flowers will not allow any that are not really fine to grow in his garden, or the seeds from indifferent ones to be sold.

By remitting $1, $2, $3, $5 or $10 the finest selections will be made by himself, and forwarded. Catalogues gratis. Feb. 20—w6tm2t.

TRUE DELAWARE GRAPEVINES, FROM THE ORIGINAL VINES,

One year old, 50 cents to $1; 2 years old, and strong layers with fruit wood, $1.50 to $2. Less by the dozen or hundred.

Also Cuyahogas at $1 to $1.50; Allen's and Roger's new Hybrids, Crevelings, Dianas, Concords, Hartford Prolific, Rebeccas, and

Many other Valuable Kinds, New and Old,

at as low prices as they can be had from any reliable source.

Descriptive price lists sent to all applicants.
Feb. 13—w9tm2t. GEORGE W. CAMPBELL, Delaware, Ohio.

AGRICULTURAL AND HORTICULTURAL Books for sale at this office.

CHOICE AND RELIABLE SEEDS

BY MAIL, POSTPAID, TO ALL PARTS OF THE UNION.

B. K. BLISS, Seedsman & Florist, Springfield Mass.,

WHOLESALE AND RETAIL DEALER IN

GARDEN, AGRICULTURAL & FLOWER SEEDS.

Would invite the attention of Amateurs, Florists, Gardeners, and all interested in Agricultural pursuits, to the NINTH EDITION of his DESCRIPTIVE SEED CATALOGUE for 1861-62, containing accurate descriptions of 1,350 VARIETIES OF FLOWER SEEDS, and upwards of 350 varieties of VEGETABLE AND AGRICULTURAL SEEDS with special directions for the culture of each variety, so simplified as to be clearly understood by the most inexperienced person. It will be mailed to all applicants upon receipt of a three cent stamp.

A Supplement to the above, containing a list of all of the novelties introduced by European Florists, the past year, with many other valuable additions, will be published early in March, and mailed to all who have received a copy of the Catalogue.

Particular attention is invited to his choice collection of

French and German Asters, Carnation and Picotee Pinks, Calceolarias, Cinerarias, German Stocks, Coxcombs, Double Hollyhocks, Camellia-Flowered Balsams, Gloxinia, Mimulus, Verbenas, Pelargonium, English Pansies, Chinese Primrose, Sweet Williams, &c.

received direct from the parties who grow these plants for the English and Continental Exhibitions, by which we are enabled to insure to purchasers Pure and Genuine Seeds of the best sorts in cultivation, raised from prize flowers only.

Flower Seeds by Mail.

The following collections, embracing many of the most desirable varieties, (including several novelties,) have been sent out from his establishment for the past eight years, and are now favorably known in every section of the country, will be sent by mail, postpaid, to any address in the Union, on receipt of the price affixed.

No. 1 contains twenty choice varieties of Annuals, ... $1.00
No. 2 contains twenty choice varieties of Biennials and Perennials, ... 1.00
No. 3 contains ten extra fine varieties of Annuals and Perennials, embracing many of the new and choicest in cultivation, ... 1.00
No. 4 contains five very choice varieties, selected from PRIZE FLOWERS of English Pansies, German Carnation and Picotee Pinks, Verbenas, Truffaut's French Asters, Double Hollyhocks, ... 1.00

Any one remitting $3 will receive the four assortments, postage free.

The following additional assortments will also be sent at the prices annexed, free of postage.

No. 5 contains fifteen very select varieties of Greenhouse Seeds, $3.00
No. 6 contains one hundred varieties of Annuals, Biennials, and Perennials, including many new and choice varieties, 5.00
No. 7 contains fifty varieties of Annuals, Biennials, and Perennials, ... 2.50
No. 8 contains twenty varieties of hardy Annuals, Biennials, and Perennials, for sowing in the autumn, ... 1.00

The seeds contained in the above assortments are of our own selection. Purchasers who prefer to make their selection from the Catalogue, will be entitled to a discount proportionate to the quantity ordered, as follows:

Purchasers remitting $1.00 may select seeds at Catalogue prices amounting to $1.10
do. do. 2.00 do. do. do. 2.25
do. do. 3.00 do. do. do. 3.50
do. do. 4.00 do. do. do. 4.75
do. do. 5.00 do. do. do. 6.00
do. do. 10.00 do. do. do. 12.50
do. do. 20.00 do. do. do. 26.00
do. do. 30.00 do. do. do. 40.00

Prices to dealers whose orders exceed the above amounts, will be given upon application.

Collections of Vegetable Seeds by Mail.

No. 4 contains forty-five varieties, his selection, ... $2.00
No. 5 contains twenty do. do. 1.00

The above collections contain only the most desirable varieties. They are put up in packets containing ¼ to ½ ounce each, affording an ample supply for a small family for a season. Those who wish to obtain larger quantities are referred to the following collections, which, on account of their bulk, can only be sent by express:

No. 1.—COMPLETE COLLECTION, sufficient for a large garden for one year's supply, comprising twelve quarts of Peas of the very best sorts for succession, six varieties each of Beans, Cabbage, Turnips, Corn; four varieties each of Lettuce, Onions, Radish, Muskmelons, Watermelons, Cucumbers; three varieties each of Tomatoes, Cauliflowers, Celery, Broccoli, with a full supply of Spinach, Beet, Carrots, Cress, Parsley, Parsnip, Salsify, Egg Plant, Pepper, Endive, Sweet and Pot Herbs, and many other sorts of culinary and vegetable seeds in liberal quantities, ... $10.00
No. 2.—COMPLETE COLLECTION for a moderate sized garden, containing six quarts of Peas, and most of the other varieties in proportion, ... 5.00
No. 3.—COMPLETE COLLECTION for small garden, ... 3.00

A list of the contents of each collection will be found in the Catalogue.

Those who prefer to purchase BY THE OUNCE will be supplied by mail at Catalogue Prices, WITHOUT additional charge for postage.

☞ All orders must be accompanied with the cash. ☜
Feb. 27 and March 20—m1t. B. K. BLISS, Springfield, Mass.

CONTENTS OF THIS NUMBER.

THE FARM

The Operations of Farmer's Clubs 105
Value of Manure Tested by Analysis 105
Conditions of Germination, by PROF. S. W. JOHNSON 106
Potatoes—Planting Early and Deep, and Digging Late, by B. J. HARVEY 107
A Bureau of Agriculture 108
Trimming Buckthorn Hedges 108
The Pecuniary Interests of England and France 109
Composting Muck with Stable Manure 109
Manufacture of Sugar from the Sorghum, by MILTON CONARD 110
Application of Manure, by N. REED 110
What the Illinois "Coffee" is, by J. A. WARDER and D. J. WILLIAMS 111
Culture of Corn for Soiling, by BUCKS CO. FARMER 111
April—Suggestions for the Month, by S. E. TODD 112
Culture of White Beans, by ALBERT 114
Farmers' Clubs of Onondaga County 113
Home Culture of Tobacco, by N. REED 113
Loss of Weight in Hay and Corn, by W. H. DENNING 114
Farming in Maryland, by G. H. MITTNACHT 115
Saving of Grass Seed, by J. L. R. 115
Not Gypsum Enough Used, by JAMES CHILDS 116
Corn Growing in Massachusetts, by WILBUR WILSON 115
Legal Weight of Grain per Bushel, by DANIEL MAGONE, JR. 116
Cross Dragging, by J. L. R. 116
How to Get a Large Crop of Corn, by S. W. 117
Manuring with Green Crops 118
Willow Hedges, by D. L. HALSEY 118
Tan Bark as a Manure, by TAPE LINE 118
Union Ag. Association of Albany County 128
Notes for the Month 129
Inquiries and Answers 131

THE GRAZIER AND BREEDER.

Economical Horse Feeding, by H. W. C. 124
Comparative Weight of Wool and Carcass, by GEO. GEDDES 125
Cure for Bloody Murrain, by FRANCIS PERRY 125
How to Raise Calves, by JOHN SHATTUCK 126
Worms in the Windpipe of Sheep, by J. P. 126
Wintering Pigs on Hay, by K. 126
Chaffed Cornstalks and Hay, by S. W. 126

HORTICULTURAL DEPARTMENT.

On Grafting Grapes, by C. E. GOODRICH 121
Fruit Culture in Southern Illinois, by A. BABCOCK 121
Pruning Grapevines, by AN INQUIRER 122
The Peach Borer, by A. G. HANFORD 122
Marblehead Mammoth Drumhead Cabbage, by P. 123
Culture of the Strawberry, by DORCAS 122
Raising Pear Trees—Time for Pruning, by W. ROGERS and A SUBSCRIBER 123
Raising Apple Trees, by P. 123
Notes on Grapes, by D. L. HALSEY 123
Winter Management of Dwarf Pears, by W. P. SARGENT 123
A Flower Garden for Children, by ST. LAWRENCE 123
To Protect Cucumbers, &c., from Bugs, by C. W. BADGER 123

RURAL ARCHITECTURE.

Two Kinds of Homes 120
A Room for Farm Laborers 120

THE DAIRY DEPARTMENT.

Product of a Short-Horn Heifer, by E. A. PHELPS 117
Product of Col. Z. Pratt's Dairy for Five Years 127
The Empire Cheese Dairyman, by D. H. GOULDING 127
New Process of Cheese Making, by DORCAS 127
Butter from Ten Cows, by A. B. BROWN 127
A Cortland Co. Dairy Farm, by RUSSEL SAWYER 128
Our Butter Product for 1861, by A. S. B. 128
Cheese Poisoned by Painted Tubs, by D. 128

DOMESTIC ECONOMY.

A Convenient Scalding Tub, by ST. LAWRENCE 111
Preserving Timber 119
Sorghum Sugar—Rye Coffee, by R. M. CONKLIN 119
Leather Varnish for Boots and Shoes, by S. E. TODD 119

THE BEE-KEEPER'S DEPARTMENT.

On the Construction of the Bee-Hive, by J. N. R. 117

THE POULTRY YARD.

How to Raise Chickens, by O. S. C. 119
Transportation of Eggs, by R. L. MAITLAND 119

ILLUSTRATIONS.

Trimming Hedges ..... 108 | Two Houses 120
Trees Contrasted 120

JustPublished, one vol. 12 mo.—$1.25.

MILCH COWS AND DAIRY FARMING; Comprising the Breeds, Breeding, and Management in Health and Disease, of Dairy and other Stock; the selection of Milch Cows, with a full explanation of Guenon's Method, the Culture of Forage Plants, and the production of Milk, Butter and Cheese; embodying the most recent improvements, and adapted to Farming in the United States and British Provinces. With a Treatise upon the Dairy Husbandry of Holland; to which is added Horsfall's System of Dairy Management. By CHARLES L. FLINT, Secretary of the Massachusetts Board of Agriculture; Author of "A Treatise on Grasses and Forage Plants," &c. Liberally Illustrated.

The above valuable work—the best, we have no hesitation in saying yet issued upon the subject—is for sale at the office of this paper.

Albany, Jan. 1—w&mtf. L. TUCKER & SON.

THE HORSE AND HIS DISEASES.

Embracing his history and varieties, breeding and management, and vices; with the diseases to which he is subject, and the remedies best adapted to their cure. By Robert Jennings, V. S. To which are added Rarey's method of taming horses, and the law of warranty as applicable to the purchase and sale of the animal. Illustrated by nearly 100 engravings. Price $1.25 by mail, postpaid. For sale by

LUTHER TUCKER & SON, Co. Gent. Office, Albany, N. Y.

1,500,000 CRANBERRY PLANTS! Of the celebrated CAPE COD, BELL or UPLAND, and CHERRY or MARSH varieties, from CULTIVATED grounds, for sale at low prices.

A general assortment of FRUIT and ORNAMENTAL TREES, SHRUBS, PLANTS, &c., &c., on favorable terms.

Please send stamp for Catalogue.

The Cranberry Culturist, a practical treatise on the culture of the cranberry, both marsh and upland, sent prepaid to all applicants on receipt of 12 cents in stamps.

WILLIAM H. STARR,
East New London Nurseries,
New London, Conn.

March 26—w3tm1t.

CONCORD GRAPES, &c.—Strong roots, two years old, one year transplanted—bearing size at $30 per 100. One year old, well rooted layers from the open ground $12 per 100—all cut back.

CATAWBA AND ISABELLA, $5 to $10 per 100, together with most of the popular leading varieties in limited quantities, at low rates.

NEW ROCHELLE BLACKBERRIES—Belle de Fontenay, Brinckle's Orange, Fastolf, and other RASPBERRIES—La Versaillaise and Cherry CURRANTS.

EVERGREENS—Hardy foreign and native varieties, a large stock and fine specimens.

STOCKS—Angers Quince, Doucin and Paradise Apple; imported Pear Stocks; Manetti Rose, &c.

DAHLIAS—New Hybrid Gladiolus, and other BULBS.

VERBENAS and other BEDDING PLANTS.

Fifty pounds HUBBARD SQUASH SEED, 12 cents per ounce, free by mail.

WILLIAM ADAIR, Detroit, Mich.

March 27—w4tm1t.

BEES—The subscriber will sell a large nunber of **ITALIAN BEES** the queens, or full colonies—Two hundred stocks of common bees—Glass honey boxes—Books on Bee Culture, &c. Circular with prices sent on application. Address M. QUINBY,

Feb. 20—w3tm2t. St. Johnsville, Montgomery Co., N. Y.

TRIOMPHE DE GAND STRAWBERRY.

For description of this superb and unrivalled strawberry, see our circular. Our stock of plants is unequalled anywhere, which we offer at 50 cents per dozen—$2 per 100—$10 per 1,000. Large quantities at greatly reduced rates.

STRAWBERRY PLANTS BY MAIL.

We will send to any post office address in the country, postpaid, and carefully put up so as to carry safely, one hundred good plants of any variety found in our catalogue at the prices there annexed. For instance, 100 Wilson's Albany for $1; 100 Trollope's Victoria, $1.50; 100 Triomphe de Gand, $2, &c.

☞ No orders filled for plants by mail for less than one dollar's worth of any one kind, and when less than 100 are ordered IT MUST BE AT THE DOZEN PRICE.

For prices of SELECT LISTS OF STRAWBERRIES, RASPBERRIES and BLACKBERRIES, and of GRAPES, CURRANTS, and GOOSEBERRIES, &c., &c., see our circular, which will be sent to all applicants enclosing stamp. J. KNOX, Box 155, Pittsburgh, Pa.

March 27—w&m1t.

THE FARMER'S LIBRARY.

We know of no works which afford so much Practical Information on the subject of American Agriculture, which can be procured for double the cost, as the Third Series of "THE CULTIVATOR," the 8th vol. of which is now completed. The price of the Eight volumes, handsomely bound in muslin, is 75 cents each at this office, or $1.00 each sent by mail, post paid. Either volume from 1 to 8, can be had separately at the same price. The Eight Volumes will be sent per Express to any part of the country on receipt of $6.